MAKING Waves
INFORMATION AND INSIGHT FOR THE OFFSHORE MARINE CONSTRUCTION SECTOR
ISSUE 73 | DECEMBER 2014

Where is DP heading next?

Ian Giddings talks developments, progress and the part IMCA plays

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Welcome to Making Waves

From the President

A recurring theme in this issue of Making Waves is: celebrating successes, learning from the past, and preparing for what lies ahead.

Our focus article is on the secretariat's retiring Dynamic Positioning specialist, Ian Giddings, who looks back at some of the key developments which have taken place in the field over the past ten years. It is a field whose growth we can be proud of having helped shape. But if the past has taught us anything, it is always to expect new challenges, issues and technologies to work with. Ian provides a thought provoking look at what may loom on the horizon for DP.

In September we exceeded the landmark figure of 1,000 member companies – all contributing to improving the industry. And with that in mind it seems timely that we are ready to launch our new International Contractor membership structure to reflect the membership demographic of today, and make us ready for the future. It is important that we continue to raise the IMCA profile across the globe, and both members and the secretariat are working together on a wide range of initiatives. For example, the growth of the US offshore wind sector (see page 15) while the Europe & Africa Section is planning a Luanda meeting in March 2015. We also reflect on the Annual Seminar in London, with record attendance yet again, where members came together to discuss issues, propose solutions and drive our industry forward. I look forward to celebrating further successes with you as we continue to work together.

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IMCA President

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Printed by Pyramid Press
Distributed by May Courier International & DH Airfreight Ltd

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 chris.freer@imca-int.com

For details about advertising opportunities in Making Waves, please contact Paul Hopper at Ashridge Communications.
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Dawn of new era for IMCA

The size and the demographic of IMCA's membership has evolved enormously over the years and now, after months of planning, we are ready to launch a new structure which will better represent our members.

From 1 January 2015 a new IMCA membership category titled International Contractor (ICo) will come into play. The existing contractor member category – previously named ICO – will be renamed Global Contractor (GCo). The new ICo category is aimed at contractors working in several of the IMCA geographical regions and with a range of operational capabilities.

A significant amount of work has gone into creating this category, primarily to ensure a fair and equitable selection process, but also to make certain that what we do is not in breach of competition law in any way. Additionally, the IMCA constitution has been amended to encompass the change.

IMCA has prepared and distributed, to all its contractor members, an electronic brochure which outlines the change – and hopefully answers some of the questions companies may have about the new structure.

Another important step in reshaping the organisation is the project to create the Supplier Workgroup. The intention is that this group will be an effective and inclusive forum to capture and utilise the outstanding contribution these members make to the work of IMCA, its technical documents, design and global safety debates. We are currently formalising its terms of reference for approval by Overall Management Committee, and look forward to reporting on its activities in the future.

Both of the changes to the structure are a result of the implementation of the IMCA Vision & Strategy; another important part of this work has been the development of key performance indicators (KPIs), for IMCA as a whole and for each IMCA technical division and core activity. These KPIs, which have been developed to help monitor progress in delivering the strategy, are available on the IMCA website and will be reviewed on a regular basis.

> *"It's a change designed to make us more inclusive and more relevant."*
>
> **CHRIS CHARMAN**
> Chief Executive, IMCA

If you'd like to request a copy of the e-brochure, detailing the changes to our membership structure, or any other information about our Vision & Strategy, please contact us at: **info@imca-int.com**

Documents update

You'll find details below 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 the safety flashes and highlighted just a few of the important information notes. The full listing is available on our website by navigating to the relevant divisional page or by using the search function.

PUBLICATIONS

IMCA SEL 035 – *Safety committee representative's handbook*

IMCA D 051 – *Hyperbaric evacuation systems (HES) interface recommendations*

IMCA D 054, IMCA R 020 – *Remotely operated vehicle intervention during diving operations*

IMCA M 225 – *Example redundancy concept and annual DP trials for a DP Class 3 construction vessel*

IMCA R 019 – *Understanding biodegradable lubricants: an introduction to 'green' oil in hydraulic systems offshore*

SAFETY FLASHES

Since the previous issue of Making Waves, IMCA has issued three safety flashes covering 19 incidents. These included a high potential stored energy incident and a confined space entry incident leading to fatalities, a temporarily trapped diver and equipment failure incidents. Dropped object incidents and LTIs caused by trip hazards were also a recurring theme.

INFORMATION NOTES

C&T/SEL/MARINE: IMCA C 06/14 – Enclosed Space Entry: New IMO Requirements for Training and Drills

DIVING: IMCA D 11/14 – Updated Edition of NORSOK U-100

ALL DIVISIONS: IMCA SEL 11/14 – Ebola Virus

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

New tech role

IMCA is looking for a Technical Manager to work with Technical Director, Jane Bugler, and her team. Jane explains, "My role has expanded over the years and I am now seeking additional support to cover the increasing workload. The role, based in London, but with both national and international travel, will include liaising with third party organisations to represent IMCA and its work, lobbying as appropriate, and supporting the management of the IMCA technical team and its work programme."

Email **jane.bugler@imca-int.com** or see **www.imca-int.com/vacancies** for the full job spec if you are interested.

Social events to go global

In recognition of the fact that the IMCA Midsummer Charity Ball has only ever been held in Aberdeen – and we should be more reflective of our international stature and aspirations – the curtains have been drawn on this event.

Instead, we will be utilising the savings to promote annual social events in each of our five geographical sections. The intention is for these to be used to strengthen local ties across the globe and raise IMCA's profile and influence with the business partners who matter to us. The world-wide events will also be an excellent opportunity to present the charity work of IMCAre and highlight any funding work provided to local families or communities.

Details of the world-wide social events will be available at: **www.imca-int.com/events**

Welcome to our new members

IMCA is pleased to welcome the following new members (from 24 July – 7 October 2014)

- Commercial Diving Company for Marine Services (CDC)
- Communications Gallery
- Datema Delfzijl BV
- Deep Sea Installation
- EMAS Energy Services (Thailand) Limited
- EZRA Holdings Limited
- Ezze Marine (Pty) Ltd
- FastTrack Management Services Limited
- Global Marine Consultants and Surveyors Limited
- Holman Fenwick Willan Middle East LLP
- LDC Training Ltd
- Legacy Offshore LLC
- Marine Offshore Consultants
- Mexssub International LLC
- Mieka Dive Ltd
- Nexans Norway AS, Hybrid Underwater Cables
- Northern Diver
- NUSI Offshore Training Institute
- Ocean Pro Geosurvey Sdn Bhd
- Pall Life Sciences
- Petro Services
- Petrostuff Nigeria Limited
- PT Bayu Maritim
- RST Global Solutions
- Russian Maritime Register of Shipping, FAI
- Sapientra Marine & Engineering Sdn Bhd
- SAT Systems
- Sea Source Off-Shore Ltd
- SubseaPartner AS
- Ultra Deep Solutions
- Zenith Orion Geosurvey Sdn Bhd

Deep Sea Installation

Deep Sea Installation (DSI) provides subsea installation services with a particular focus on Floating Production Systems (FPS). One niche DSI will service is FPS life extension. Technical Director, Steve Wight, tells us: "Ageing FPS mooring systems, which are continually exposed to the environment, generally require replacement since they are a critical part of the FPS Classification. DSI have innovative methods for in-situ mooring replacement, including tried and tested subsea cutting and connection systems for mooring components allowing installation of new lines using the existing mooring anchors."

SAT Systems

SAT Systems have recently launched a new range of instruments called *Series 5* for the professional diving industry which includes gas analysers and other instruments like a smart depth gauge – all of which use colour touch screen user interfaces and the latest sensor technology. Director, Fred Stokes, reveals the next development SAT Systems are working on: "Recently we've been testing new oxygen sensor technology which could replace the lead based electrochemical ones used in our industry. The sensor uses the fluorescence quenching principle of oxygen to create a high stability long lived sensor that is RoHS compliant."

Datema Delfzijl BV

Datema facilitates safe and carefree navigation with its range of products and services. In a world of increasing security regulations, their team of specialists focus on original and progressive solutions to meet the navigational and safety requirements of the industry.

You can find links to the websites of all our members, old and new, at **www.imca-int.com/membership/membership-directory**

Safety rep handbook released

"The new handbook will help safety committee representatives to function more effectively"

MARK BOSSON
HSE Manager, Technip Marine Operations Services

Making sure our members have the highest quality information at their disposal to perform work safely and meet legislative requirements is key to IMCA's focus. With this in mind, we are pleased to announce that have a new tool – the *Safety Committee Representative's Handbook* – ready for use in the industry.

Safety committees, often used by IMCA member companies on board vessels undertaking marine operations, are an excellent way of promoting and managing safety issues. But in order to do a proper job on these committees, members need to understand their roles and responsibilities.

"It was recognised that developing an easy to use piece of guidance, which provided a working knowledge and an overview of how all the relevant marine and shore based legislation fitted together, would enable safety committee representatives to do a better job," says Mark Bosson, HSE Manager of Technip Marine Operations Services, and Chairman of IMCA's Safety Environment & Legislation (SEL) Core Committee. With this in mind, the SEL Core Committee set about producing a handbook to meet this need. A draft version of it was prepared ahead of the IMCA Safety Seminar in Houston earlier this year for the attending safety experts to cross-examine. The flurry of further excellent ideas and feedback generated in Houston was collated, considered and included – and now the handy A5 wire bound handbook has been distributed to IMCA members and is available to download and order online.

"The handbook has been a long time coming," says Mark, "and it will be yet another welcome piece of guidance that IMCA members can utilise. I encourage anyone involved in a vessel safety committee to draw upon it and make full use of the information contained within it."

Simple and useful

The handbook is international in scope, and is written in straightforward and simple language. As well providing an overview of legislative issues, it provides guidance and information on a range of safety related topics. It also covers the 'nuts and bolts' of how a safety committee works including:

- The function, remit, and structure of safety committees;
- How they affect welfare and the working environment;
- And where safety representatives can find further information.

There is a chapter on some of the fundamental safety processes that are of importance to offshore personnel including: risk assessment, safe systems of work, control of hazardous substances, manual handling, working at height and lifting operations.

Fresh flash template

Contributing to safety flashes – a vital tool for sharing information, identifying potential hazards, and helping to avoid incidents being repeated – is now easier than ever, after IMCA launched its new, user friendly online submission template.

The task of preparing a report is now significantly quicker for safety professionals, and others, submitting incidents to IMCA. Any member can submit material to us at incidentreports@imca-int.com.

See the new template at:
www.imca-int.com/safety-environment-and-legislation/safety-flashes

IMCA audit all clear

To help us develop an IMCA management system manual, Henk van Ketel of Heerema Marine Contractors recently spent two days at our office undertaking an audit of our organisational structure and business processes.

Henk used *ISO 9001: 2008 quality management systems* as the basis for his audit and conducted interviews with a number of the secretariat staff. He identified that, in general, IMCA's work procedures were clear and well documented, though he did identify some areas for improvement. We appreciate Henk's time and interest in helping us with this work.

IMO Update


Image: IMO

Ballast water still a hot topic

IMCA has joined other shipping industry organisations in calling for IMO to address the practical barriers that have been discouraging some governments from ratifying the Ballast Water Management Convention.

We have raised concerns about the robustness of the type approvals process for ballast water treatment systems and about the procedures for port state control inspections. In a welcome move, IMO has agreed to revise the type approval guidelines as a matter of urgency, but has also agreed that ship operators that have fitted treatment systems, type approved under the current guidelines, will not be penalised, so long as the equipment is being operated and maintained properly.

IMO has also adopted Port State Control guidelines, which should address industry concerns about ballast water sampling. The Convention is likely to reach its ratification threshold very shortly.

Confined space drills

From 1 January 2015, there will be new requirements for emergency training and drills, aimed at addressing incidents involving confined spaces on board vessels.

Crew members with enclosed space entry or rescue responsibilities will be required to participate in an appropriate drill to be held on board the ship at least once every two months. Also, all crew members must be instructed on the risks associated with, and procedures for safe entry into, enclosed spaces.

Reduced sulphur limits

New Sulphur Emission Control Areas (ECAs) will come into effect on 1 January 2015. The new 0.1% sulphur limit for marine fuel will apply in the North Sea, including the English Channel, the Baltic, and North America, up to 200 nm off the coast of Canada and the US. Ships will be required to use distillate fuel or Exhaust Gas Cleaning Systems – 'scrubbers'.

645 review to begin

A reminder that the review of the IMO Guidelines for vessels with dynamic positioning systems (MSC/Circ.645) will get underway at an IMO meeting in March 2015. You can read more about IMCA's proposals for an update to this key document in the focus interview with Ian Giddings which begins on page 9.

New rules for ships on UKCS

IMCA has been working with the UK authorities to find a suitable solution for ships working in the UK sector that have more than 12 non-marine personnel on board but do not have Special Purpose Ships (SPS) Code certificates.

Companies should be aware of the key deadlines:

- 1 January 2015 – ships built (keel laid) before 1 July 2009 and continuing in their previous operational roles must have a Statement of Acceptance from their flag state by 1 January 2015. The UK has accepted the model format for this Statement developed by the Bahamas Maritime Authority, and other governments are being encouraged to adopt this format.
- 1 November 2015 – ships built between 1 July 2009 and 30 June 2014 or carrying out new types of operations (eg. walk to work operations) must have been assessed for SPS Code equivalence by 1 November 2015. Appropriate mitigations will have to be considered by the UK authorities on a case by case basis, and companies are expected to have started work on preparing for these assessments by the end of this year.

Revised US training requirements

IMCA has responded to the US Coast Guard's proposals to expand maritime safety training requirements to the non-marine personnel on all offshore vessels on the US outer continental shelf, including those on foreign flag vessels.

We submitted comments on behalf of members, welcoming the proposals for more harmonised standards in principle, but urging the Coast Guard to recognise existing industry training – rather than introducing new credentialing requirements for project personnel – and to avoid duplication with the BSEE SEMS requirements.

For more information on IMO and regulatory issues, contact **emily.comyn@imca-int.com**

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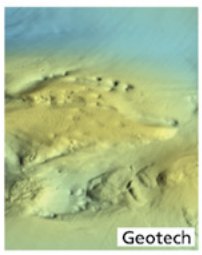

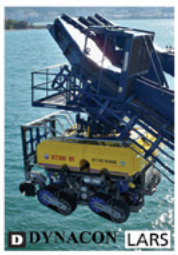

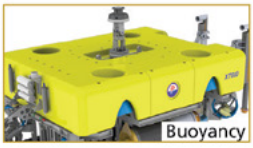

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WHERE IS DP HEADING NEXT?

Ian Giddings talks developments, progress and the part IMCA plays

> *“Ian Giddings is one of the world’s top experts on dynamic positioning and offshore training”*
>
> THE MARITIME SIMULATOR NEWSLETTER

With retirement looming for IMCA’s Dynamic Positioning (DP) specialist Ian Giddings, we pick his brains on the key developments that have taken place in the realms of DP, what looms on the horizon and further into the future, and the role IMCA is playing.

The clock is ticking and we have just a few short weeks left to soak up as much knowledge as possible from Ian Giddings, IMCA’s Technical Adviser – Marine, who will be retiring in January.

His aim in retirement is to spend time on genealogy, astronomy – he has an Open University Degree in maths and astronomy – reading, writing, listening to and sharing knowledge on the Blues. A highlight in his time with IMCA was getting to hear Bryan Lee play on Bourbon Street whilst in New Orleans for the Annual Seminar in 2011. Ian will also be making sure he keeps in touch with DP developments, and above all, constantly learning. “If you stop learning, give up. I’ll take that into my retirement because there are so many things I want to do, and to learn about!” Here in Making Waves he shares his thoughts on a wide range of DP related matters...

Reliability and progress

“DP systems have certainly become more common and reliable,” he explains. “Turning the clock back, I first became involved 28 years ago as a lecturer at Aberdeen College. We were the first centre in the UK to install a DP simulator; and later, as Team Leader for marine operations, I was responsible for DP, commissioning new equipment and installing a new DP simulator. I also spent time at sea as a DPO – so, I’ve

Continued on page 10

WHERE IS DP HEADING NEXT?

Continued

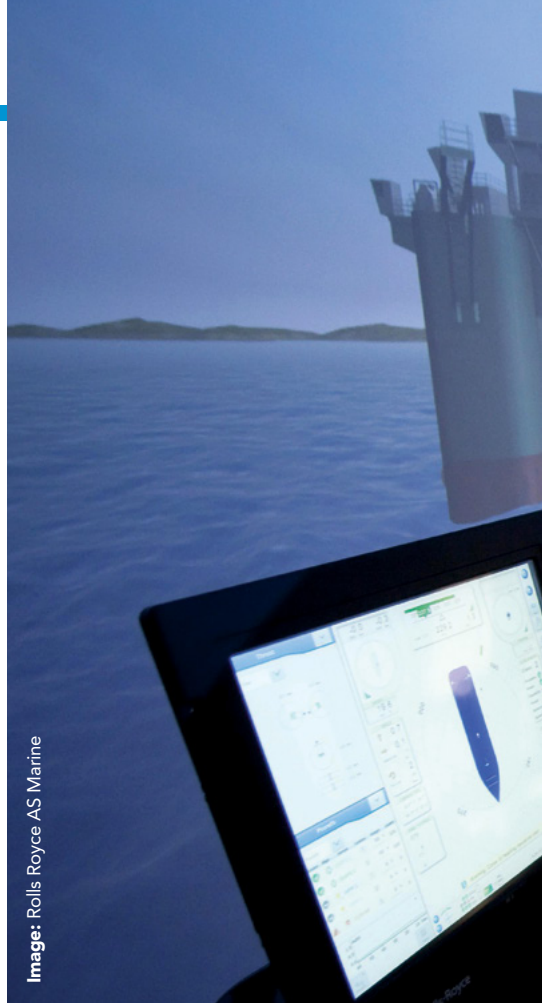


Image: Rolls Royce AS Marine

been there, done it, and got the tee-shirt – I still have it! I moved to the Nautical Institute in 1998 and became Director of Education and Training dealing with, amongst other things, training standards, accreditation of DP centres and certification for personnel in dynamic positioning. I moved to IMCA in 2006 to become Technical Adviser – Marine, where DP has continued to play a key role in my working life.

"We all strive for greater reliability; it has to be a factor. DP has become far more reliable, equipment has improved, it's a natural progression – part of DP's evolution. You would expect improvements to the model of car you were driving ten years ago – the same is true of DP.

Quantity and quality

"The number of vessels with DP has grown dramatically. I believe that eventually every ship will have some form of it; we are already getting systems on yachts. When I started you knew all of the ships with DP as there were only a few companies operating them. But it is extremely common now, and you would not expect to walk aboard an offshore vessel and not see a DP system. The Nautical Institute has issued over 23,000 DPO certificates and there is also familiarisation training for divers and shore staff.

"There are also now some 70 DP training centres in the world – when I started at the Nautical Institute we hadn't yet achieved double figures, but we had great success creating the annual DP instructors meeting, where challenges and solutions could be shared. I worry about the large number of centres we now have, which sees training fragmented. New centres need time to build up, and with more centres, ironically there is less sharing of global knowledge. One of the benefits of there being a small number of superb centres was that you had people who not only knew a great deal, but recognised what they didn't know – and weren't afraid to say so and ask for input from their peers – knowing someone who does know is vitally important!

The annual DP instructors meeting in 2005, hosted by Kongsberg in Norway.

"Another concern is about the increasing number of certification schemes. We would prefer there to be a single one for DPOs, but there isn't. At IMCA we are revising M 117 – *The training and experience of key DP personnel*, a project my successor will be working on, to take that into account and to reflect that when a DPO finishes training it isn't the end of the story. Training is fine, so is certification, but competence levels are key, and a concern.

Trusting the wire

"I heard about DP long before I knew what it was. I was on a ship trading around the Mediterranean when the lookout told me about a system that made the vessel stay where it was thanks to a wire over the side – I was certainly quizzical about that, but found it was indeed true when I became involved at Aberdeen College.

"When I started it was a system involving the wire over the side, beacons and short range radar-type systems. One of the big developments has of course been the DGPS systems using satellites for position. We've got other systems that have popped up, but you still have DGPS, you still have your beacon systems and short range radar, and most of the people of my era, and even a later era, still swear by the taut wire. With a bit of wire you can walk onto the bridge way and look over and see where it is going and reassure yourself that things are working as you would expect. You can't look up at a satellite and say 'I see you'. We like taut wires, they're mechanical so we understand how they work!

Green future

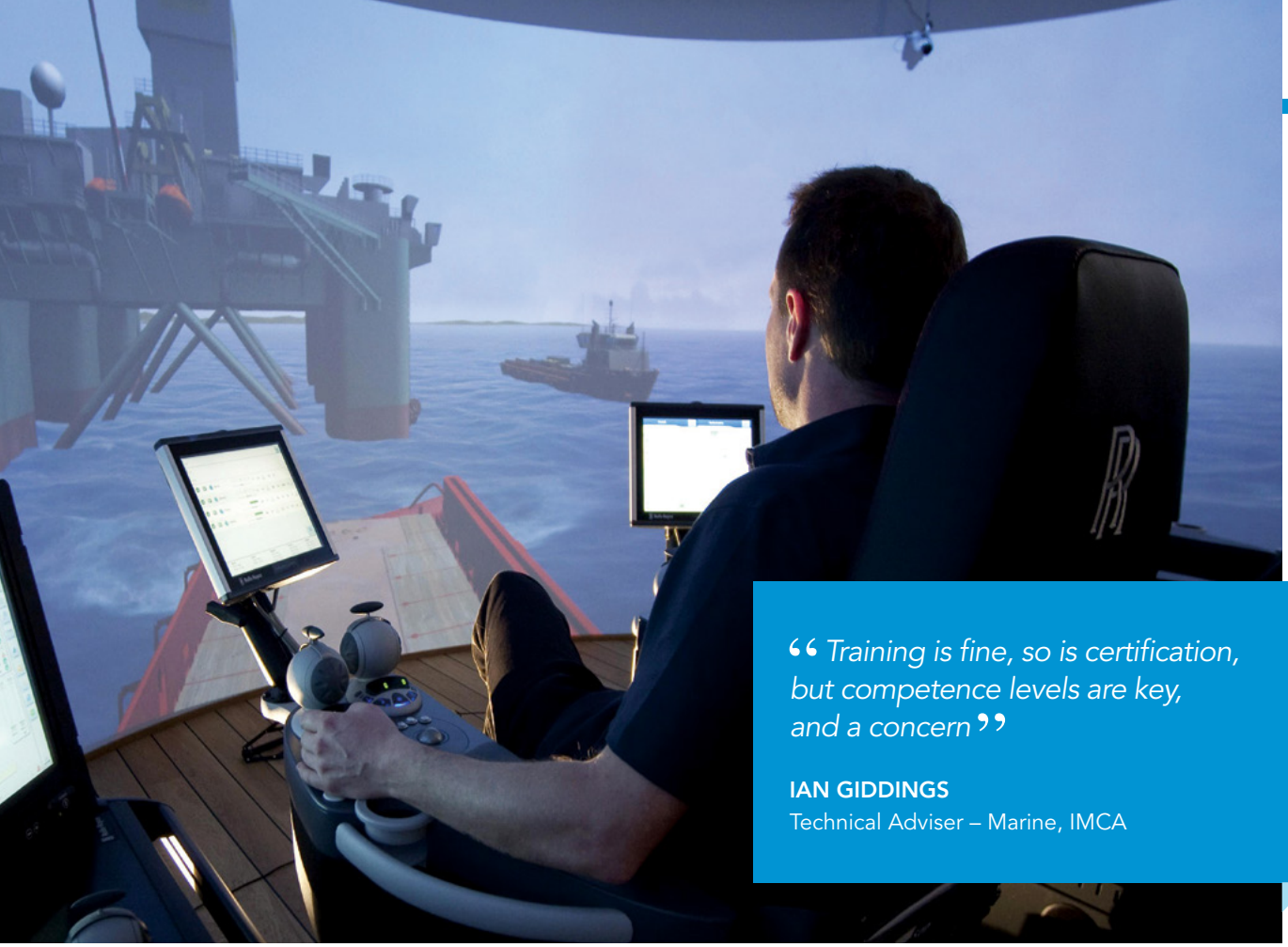
"Recently there has been more focus on power management. In the early days you ran as much as you could to give you the redundancy necessary if something fell down. Now you have systems that manage power. In terms of propulsion, we've seen the early days of tunnel and azimuth thrusters, water jet thrusters, and innovative Voith Schneider thrusters. We've added rudders and main engines to the systems too, so constant improvements are very much the name of the game.

"With power and propulsion we are now facing 'green' requirements. DP vessels aren't particularly environmentally friendly, because you need that reserve of power. The basic redundancy principle of most of these vessels is that if one thing fails you've got a fall back to replace it. If you apply that to generators, you've got one running and you've got another one operating because it will take over if the first one falls down. Of course that does not tick the environmentally friendly box, although most DP system manufacturers are trying to develop 'green' DP, primarily for when you are not working, when standing by, when there really is next to no risk. There is a concern about how 'green' will pan out at the end of the day. You need the redundancy. If you are a diver at the end of an umbilical you want to know that up top they are doing something to keep on station reliably.

Simulation and realism

"Position references have changed as well and there are new ones all the time. There is talk of incorporating inertial navigation systems into systems. That's an interesting concept because most of these inertial navigation systems came from the US military; and naturally come with certain restrictions.

"On the environment side of things, let me turn 'simple sailor' for a moment. If you look at a wind sensor you can see it turning round. The new ones, the ultrasonic ones, are just four



> *“Training is fine, so is certification, but competence levels are key, and a concern”*
>
> **IAN GIDDINGS**
> Technical Adviser – Marine, IMCA

stalks sticking up. You can’t actually tell that it is working properly. Yes, you can compare what it is reading with your estimate, but comfort is actually seeing it working! It is a natural progression, and as it becomes the rule and as reliability improves people will accept it as the norm. But I have issues with people accepting things ‘as the norm’. You should always question ‘is it working?’, ‘is it doing what I expect it to do?’, ‘what shall I do if it goes wrong?’

“Simulators have certainly developed enormously. When we started in Aberdeen we built a false wooden bridge with a picture of a rig behind it; and I recall that my good friend Helge Samuelsen, of SMS in Trondheim – also retiring – showed me how they simulated an engine room explosion by dropping a metal tray on the floor by the side of the microphone; and the arrival of a helicopter was by means of rhythmic beating of your chest alongside the mic. The sense of realism in modern-day simulators is awe inspiring. Course participants can be forgiven for forgetting it is a simulator, but they deal with more problems in a week than you will during a lifetime at sea.

IMCA’s value to DP

“Continuing to be at the forefront of DP guidance and being involved with DP in general is of vital importance to the association and its members. Revisions are under way to M 103, M 166, and M 190 as well as M 117; our work on the annual station keeping incidents continues; and we are planning DP incident safety flashes when there is a clear message about what has gone wrong – we are seeing increasing numbers of software related incidents that should be shared fast.

“Of course, another important step for the industry which IMCA is involved with is the review of the IMO Guidelines for vessels with dynamic positioning systems (MSC/Circ.645), which will start at an IMO meeting in March 2015. We formed a workgroup which developed a document to submit to IMO, proposing amendments to reflect changes in technology and take account of current industry practices.

“These focused on making some of the language used in the guidance clearer, considering the need for a DP class 0 to complement the existing classes and the inclusion of references to FMEAs (Failure modes and effects analyses) and possibly ASOG (Activity specific operating guidance). A question on the need and effectiveness of FSVADs (Flag State Verification and Acceptance Documents) was also raised.

“The document was circulated to interested maritime administrations, class societies and other industry bodies to ensure the views and comments of our entire ‘DP network’ were captured, before being submitted to IMO. We wait eagerly to see what happens next and, although I will not be present, IMCA will continue to work hard on behalf of its members to shape the outcome of this project and other DP challenges and issues in the future.

“I shall miss being part of the industry, the people, working with a great team at IMCA, and the respect in which everyone holds each other in the industry. Thank you all!”

CRYSTAL BALL GAZING GIDDINGS STYLE

- Are we getting too complex? Are innovation, automation and integration going to make life impossible for the seafarer? If we don’t control them, ‘yes’
- Why not display the DP system widely and allow users to select the information they need?
- I can see the day when the DP control system is the equivalent of an iPad
- Unmanned vessels with one controller looking after 10 vessels – could be fine for container ships on the North Atlantic run, but not for DP operated supply vessels when 1% of the time can be sheer panic!
- I imagine there will be new applications for DP – for seabed mining for instance
- Innovations from the military – the bridge front may be the equivalent of the paint-on displays that fighter pilots have in their helmets

Preparing for the future: lessons from the past

Image: Andy Lane Photography

When over 500 of our members gathered in London for our annual seminar the main focus was on the issues we need to address to meet the industry's future needs. But one of the stand out presentations was Stephen Carver's enthralling case study on the Emerald field – which highlighted some valuable lessons we should not forget from the past.

Stephen – a lecturer at one of Europe's top MBA business schools, Cranfield University – had the crowd on the edge of their seats as he shared the tale of a risky business, betting big and contractual wild abandon which ultimately led to the demise of several companies.

The story he told was about one man's quest in the early 90s to convert a floating exploration platform into a mobile oil production unit to tap into the previously undeveloped Emerald field, east of Shetland. It was a high risk project, which offered a tantalising reward. It was a bold project but, from the beginning, it was flawed.

The crowd listened as, one by one, Stephen introduced the other protagonists of the tale: the geologists, with a thirst for cracking the puzzle of the tricky new frontier field; the engineering contractors, so keen to take a piece of a new market that they forgot to read the small print of the contract; and the sharks, the companies waiting in the wings to take over those in trouble and pick up the pieces – but also the liabilities.

Real world lessons

The presentation was a particularly engaging and theatrically delivered addition to the range of high quality and technical papers, but it too contained serious lessons to take away. As Stephen explained: "It's easy to say 'but I wouldn't make those decisions, or act like that *in the real world*', but this is a true story of how people *did* act under pressure."

The parties involved were blinkered by the promise of the potential return and as a result they kept putting up the money and finding ways to overcome the obstacles presented along the way. But when the first wells drilled missed the oil completely and the subsequent ones delivered a far too watery final product, and nowhere near the expected quantity of it, it was a disaster for everyone. Stephen surmised: "They bet the farm – they bet everything on one venture and they lost it all."

Chickens and pigs

Attention to the complexity of contracts and due diligence was the second key moral of the story. When new offshore safety requirements came into play, as a result of the Cullen report, the project to convert the Emerald Producer incurred extra costs. Agreeing which part of the partnership should pay these costs became a point of contention and proved a turning point in the fate of the companies involved. After a court case, enormous damage to its reputation and a crash in its share price, the internationally established contractor was left wondering how what had once been a relatively small piece of business in their portfolio had spiralled out of control, ruining them when they had to pick up the bill.

Stephen highlighted that, in this case, serious mistakes were made when the initial contract was signed too quickly and without careful consideration. He illustrated his point by warning: "When signing a joint venture contract, be sure to know whether you are the chicken or the pig: the chicken does the leg work and is busy laying the eggs, while the pig simply eats and eats – but beware, if you're a pig who doesn't read the small print, you might end up on the plate!"

Conclusions

IMCA Chief Executive, Chris Charman, who kicked off the opening morning of the seminar, gave his view of the event: "IMCA members were delighted with the content and delivery of this year's seminar. The route map for IMCA's strategic direction is drawn up at these meetings, and the widest possible range of contributions is vital – which is why the event is never static. Next year we will be in the Middle East, and are aiming to continue this momentum. It will be another essential event to attend."

Seminar hot topics

With a sell-out crowd, an exhibition packed with the latest innovations in the industry and delegates coming from all over the world to join the discussions, the IMCA Annual Seminar 2014 was a resounding success. Here are a few of the highlights, which were fresh in everybody's minds at the end of the two days:

- Judith Hackitt CBE, Chair of the UK Health & Safety Executive's keynote address about the importance of creating the right safety culture
- Alex Simpson of Aubin Subsea's paper about innovation in subsea lifting and liquid buoyancy systems
- The progress made in the interactive workshop sessions
- The incredible networking night at the Natural History Museum

"Excellent! IMCA has really raised the bar again with this year's event"

DARREN BRUNTON
Managing Director, KB Associates

Members and delegates may access all the presentations from the IMCA Annual Seminar 2014 by visiting **www.imca-int.com/events/annual-seminar**

IMCA members under one roof in Copenhagen initiative

We're offering a brand new, cost effective chance for our members to get involved with our events programme by hosting a shared pavilion at EWEA Offshore in March 2015.

Industry events are an ideal opportunity to raise your profile and network with others in our industry, but the expense and hassle involved in exhibiting can sometimes be an off-putting factor for members trying to manage budgets and resources. With this in mind IMCA has come up with a creative solution which means less work and expense, but even greater return for its members, by booking a pavilion at EWEA Offshore 2015, in which booths are available for member companies to purchase.

"It is a win-win situation," explains Claudine Bleza, IMCA Events Co-ordinator. "Our members have the opportunity to exhibit at one of the world's largest offshore wind energy conference and exhibitions for a great price and without the logistical headaches of arranging

furniture, internet service or building a stand – all of which we'll take care of. Our strength in numbers also means the pavilion will offer a focal point: an advantageous, convenient and effective environment for networking, for us *and* our members.

"We have room for 12 members to join us in total, but some spaces have already been sold, so those interested in joining us are advised to get in touch soon."

For more details please contact:
claudine.bleza@imca-int.com

Calls for CMS accreditation

Neil Evans kicks off proceedings at the competence seminar which attracted a record 160 attendees

On 27 August IMCA hosted a seminar in Singapore to offer companies tools and solutions to develop effective competence management systems (CMS).

The key outcomes from the day, which the Competence & Training Core Committee will follow up on, were the views voiced by the attendees that:

- IMCA needs to offer better guidance on the development and implementation of a CMS;
- Developing an IMCA CMS Accreditation Scheme would be of value to the industry;
- A pilot scheme, administered in-house locally, to recognise the qualifications of workplace assessors (WPAs) in the region should be developed.

Europe & Africa action

Individuals from government bodies, industry organisations and IMCA member companies were among the line-up of speakers who gave updates on a wide range of challenges facing IMCA's Europe & Africa Section at a meeting on the afternoon before the annual seminar.

Attendees discussed legislative and regulatory issues affecting the region, from changes to UK helicopter services and to offshore diving on the UKCS, to travel security and what could be expected from Europe, following this year's EU elections. The next Europe & Africa section meeting will be taking place in Luanda, Angola, on 4 March 2015.

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**

DECEMBER

2-5: **OSEA**
Singapore

3-4: **Subsea Vessel Summit**
Aberdeen – UK

11-12: **Deepwater Asia Pacific**
Jakarta – Indonesia

JANUARY

13: **Central & North America Section Meeting**
Houston – USA ●

14-15: **Asia-Pacific Section Briefing & Meeting**
Jakarta – Indonesia ●

20: **Middle East & India Section Meeting**
Dubai – UAE ●

27: **South America Section Meeting**
Macae – Brazil ●

FEBRUARY

11-13: **Subsea Expo**
Aberdeen – UK

17-19: **Annual OSJ**
London – UK

MARCH

2-6: **European Shipping Week**
Brussels – Belgium

4: **Europe & Africa Section Meeting**
Luanda – Angola ●

10-12: **EWEA Offshore**
Copenhagen – Denmark

11: **PLC Diving Workshop**
Amsterdam – the Netherlands ●
(see page 18)

16-18: **SPE Americas HSSE**
Denver – USA

26-28: **Offshore Engineering Technology & Equipment**
Beijing – China

29-31: **Canadian Underwater Conference & Exhibition**
Victoria – Canada

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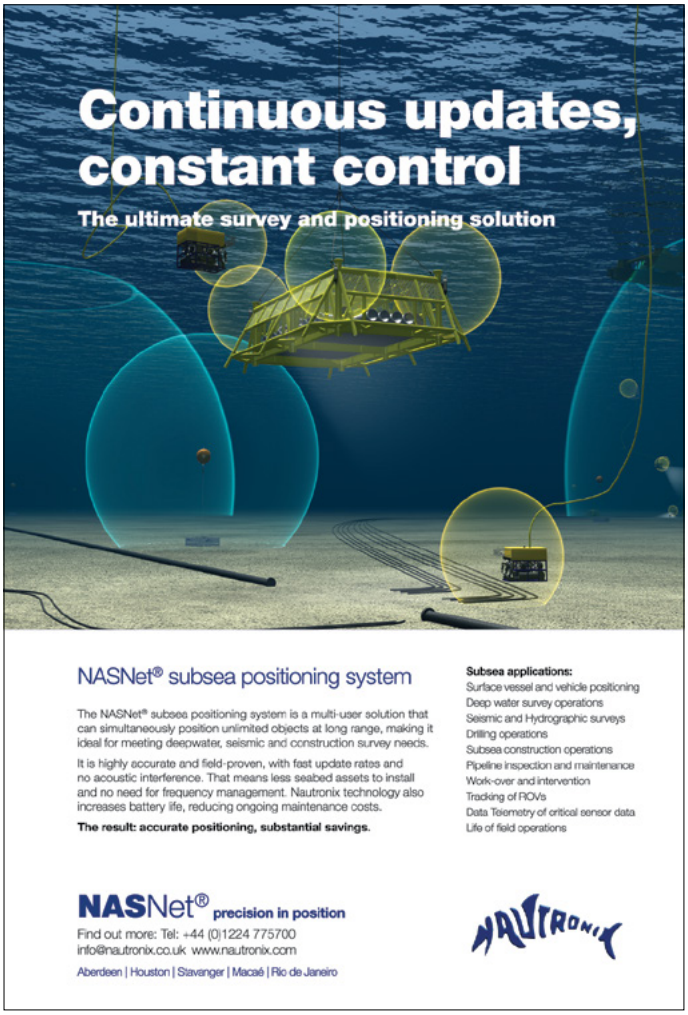


WORLD-WIDE

US offshore wind – under starter's orders!

The American offshore wind industry is now moving from drawing boards to reality with leases being granted and Deepwater Wind's Block Island and Cape Wind poised for construction.

Image: A2SEA

RECENT US HEADLINES TELL THE STORY

- US offshore inches forward
- Cape Wind nearing construction
- US to float offshore met buoys
- Cape Wind commits to New Bedford
- UMaine consortium lands $3 million R&D grant
- Deepwater makes shortlist
- US offers ROW grant for Block Island
- US clears grid connection for first offshore wind farm

Yes, the US offshore wind sector is on the move, with met masts and ocean buoys off US coastlines, the University of Maine's floating wind turbine in the water, Deepwater Wind granted the final federal permit for the 30MW Block Island offshore wind farm, and Cape Wind inching towards construction – it's an exciting and challenging time.

Europe, the offshore wind centre, and the UK in particular, are on hand to share knowledge. As DONG Energy's *OffshoreWind.Works* campaign shouts from billboards: "The UK is the global leader in offshore wind, with more capacity in operation than the rest of the world combined. This renewable energy already powers over 2 million UK homes; a figure set to treble by 2020."

Working together

In mid-September the Offshore Renewable Energy (ORE) Catapult, a technology innovation and research centre for offshore wind, wave and tidal energy, welcomed the Governor of the Commonwealth of Massachusetts and offshore wind industry leaders from UK and US in London. They discussed the current and future state of the offshore wind industry, and how both countries could work more closely together to tackle the challenges for their mutual benefit. Discussion touched on the role of innovation, policy incentives in changing political climates, barriers to entering the market and technical challenges in establishing the industry, as well as project financing, cost reduction mechanisms, and the economic benefits of the offshore wind industry in both the UK and US.

Early in November IMCA's Chief Executive, Chris Charman presented with Jakob Nielsen, Head of EHS Offshore, Siemens Energy Transmission at the NOIA 2014 Fall Meeting in Florida. They tackled the subject of 'Risk Management in Renewable Energy' covering many elements, looking at the challenges and giving a comprehensive overview of the risks. They dived deeper into the high risk activities and identified the unique risks compared with offshore oil and gas, and naturally highlighted the IMCA documents of particular relevance.

Reinventing the wheel

Effective sharing of marine construction experience, safe methods of working and recommended practice for offshore installations will be vital for US offshore wind projects.

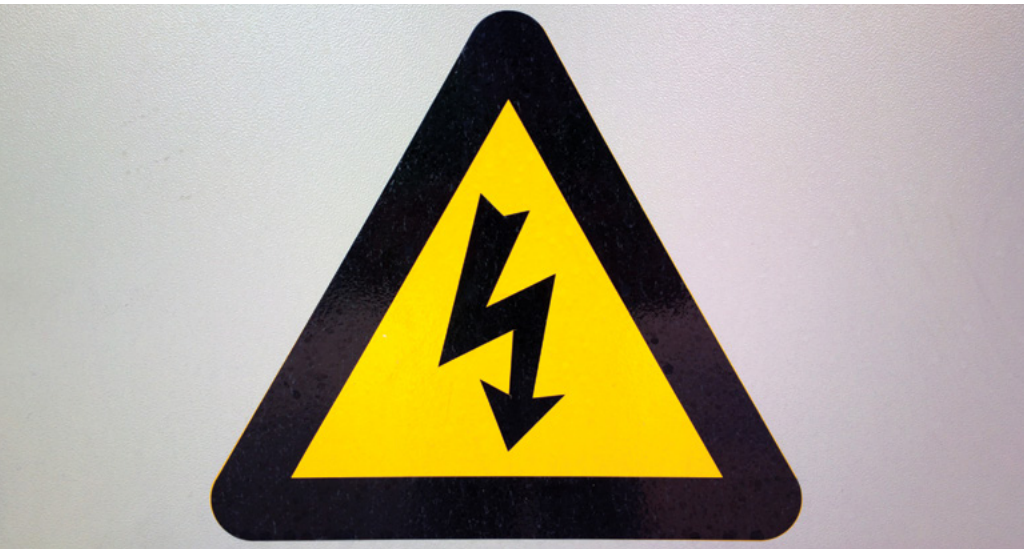
Of course, IMCA's documents have been designed to move the industry closer to achieving the twin goals of 'zero incidents' and efficient and effective risk free operations – and the knowledge transfer from existing guidance for the oil and gas industry to the offshore wind sector is hoped to produce the same results, meaning no 'reinvention of the guidance wheel' is required.

HOT DOCUMENTS

Which IMCA guidance is most relevant to offshore wind?

- Guidelines for lifting operations
- Mooring practice safety guidance for offshore vessels when alongside ports and harbours
- Guidance on the transfer of personnel to and from offshore vessels and structures
- Safety pocket cards: Toolbox talks; Workplace safety self-assessment; Keep your eyes on safety; Hazard identification
- DVDs: Risk assessment; Toolbox talks

IMCA hosts highly charged workshops



Since DNV GL published its revised Class Rules concerning high voltage short circuit testing on dynamically positioned (DP3) vessels earlier this year, there has been much discussion on the topic including two important IMCA workshops. Our marine specialist Mark Ford explains the story so far and what it means for IMCA members.

"With current and future emissions legislation, the pursuit of energy efficiency and the reward of lower vessel operating costs – as a result of reduced fuel consumption and diesel alternator maintenance – there is an increasing demand, by vessel owners and operators, to operate DP3 vessels in a closed bus-tie configuration.

"But after some reported incidents where vessels operating in this configuration lost position – as a result of short circuit faults on their high voltage (HV) power system, which were not adequately ridden through – DNV stepped in with revised testing rules. The overall objective of these new short circuit tests is to verify a mathematical computer model of the power plant, which in turn should ensure that the power plant of a vessel is capable of coping with a short circuit fault by effectively isolating it without detriment to the vessel's position keeping capability.

Questions and concerns

"The new Class Rules have been met by the industry, however, with some uneasiness. To alleviate our members' concerns, offer an opportunity to voice their opinions and a forum for discussion, IMCA organised workshops to get to grips with the issues. The first of these was in August and the second in November as part of our annual seminar in London.

"The events were well attended and saw some hot debate. The big questions being asked by members were to do with the safety of the new tests such as: 'Are references to the new short circuits tests covered by any local or national HSE regulations?'; 'Who assumes liability should the test go wrong and personnel safety is compromised?'; 'What about potential damage to equipment and delays to vessel operation?'.

"Much is still unclear as the issue is complex and whilst technical discussion about different scenarios, mathematical models, currents and capacity will continue, the most important facts for members to know for now are:

- The Marine Technology Society (MTS) is already working to produce guidance for how these tests should be safely conducted;
- The tests will apply to all DP3 vessels that intend to operate with a closed bus-tie configuration;
- IMCA will continue to be involved in finding workable solutions for its members."

If you have questions or concerns about the topic please contact: **mark.ford@imca-int.com**

CMID Update

Important updates are on the way as IMCA continues work on rejuvenating its world-wide recognised vessel safety audit system: the Common Marine Inspection Document (CMID).

It has been acknowledged that the current version of CMID and the status of vessel inspectors are in need of further revision to bring the system up to the demands of modern work practices and recent regulatory amendments in the maritime domain. This re-emphasises the need to make the CMID process part of the ship safety and environmental protection management system, which is a requirement under the International Safety Management (ISM) Code adopted by the International Maritime Organization. Under the title of *Project TRADEWINDS*, the secretariat is in the process of working to deliver these, and other improvements, for the release of version 9 of the CMID system.

The new version, which will be more useful than ever as an audit tool, is scheduled to be available by April 2015. At the same time, we are planning another important step in improving the system's user friendliness by launching the much anticipated app, which has been designed for Android and Apple devices, and links users directly to the CMID database.

Accreditation closer

IMCA is also working with the International Institute of Marine Surveyors (IIMS) to introduce an accreditation scheme for vessel inspectors/auditors using the CMID system. The scheme will operate on a world-wide basis with initial and refresher training courses being made available in all major regions where IMCA members are operating.

Having gained accredited status, vessel inspectors/auditors will be issued with an identity card embossed with both an IIMS logo and a declaration that the accreditation is recognised by IMCA. This important development has been approved by IMCA's Overall Management Committee and is also due to launch in conjunction with CMID version 9.

For more information see CMID Update Issue 9 on our website here: **www.imca-int.com/cmidupdate**

Green oil: discussion to guidance

With the ever increasing demand for environmentally friendly commercial operations, IMCA has developed guidance on the use of 'green' oils for remotely operated vehicle (ROV) systems to help members keep up with the industry's needs.

When questions such as "what constitutes 'green' oil?" and "what constitutes a 'spill' in an ROV operation?" were being asked the Remote Systems & ROV Committee agreed it was time to take action and set about producing a document to inform on the issue. The subject was discussed at the IMCA Annual Seminar in 2012, and following that, the feedback from a workshop and expertise gleaned from the IMCA membership was used as the basis for the guidance.

Offering advice

The guidance is intended to offer practical advice and dispel the misconceptions and confusion surrounding these questions above. Anyone reading it will quickly appreciate that there is a degree of physical and chemical science needed to better understand the information. And it will be of no surprise that there is significantly more detailed and complex data available to the industry – IMCA R 019 should only provide an initial point of reference.

The growing attention on marine pollution by 'green' political lobby groups, and the consequent interest of the general public, has led to demands that operations carried out in the world's oceans are done with the maximum practicable protection of the environment. This, along with the need to observe new legal and regulatory requirements, has seen the increase in the use of Environmentally Sound Hydraulic Fluids (ESHF) – but choosing the correct type for a particular application can be problematic. Chris Baldwin, IMCA Technical Adviser, explains that, "while IMCA R 019 is not designed to give operators a definitive instruction on choosing ESHF, it does offer them advice."

> *"This document will be key to helping our members make decisions which will protect the environment"*
>
> **CHRIS BALDWIN**
> Technical Adviser, IMCA

Environmental aim

The document is broken down into chapters containing information on: the definitions for the different ESHF classes and qualities and their appropriate applications; fluid performance parameters; biodegradability; water intrusion; regulatory aspects – Oslo Paris Commission (OSPAR) compliance; information on reporting of oil spillage; and a handy do's and don'ts section too.

"The ROV industry is as keen to protect the environment as everyone else in the offshore sector," says Chris, "and we believe that this document will be key to helping our members, and the wider community, achieve this aim by evaluating the suitability of particular ESHFs before their application."

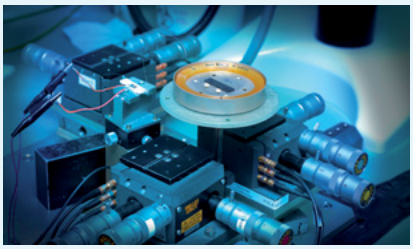


Image: iXBlue

Introducing INS

Inertial Navigation Systems (INS) are widely used by marine contractors, supporting a wide range of offshore activities, including surveying, installation and inspection. Thanks to an increase in their use in recent years, a need has been identified for a general introduction and outline for their use. The Offshore Survey Committee, assisted by consultant Gordon Johnston, has developed a document to provide a broad overview of INS technology currently in use in surface and subsurface positioning solutions and their applications, as well as highlighting a number of important considerations in their use.

Bigger ROV picture

The Remote Systems & ROV Committee has agreed that we could learn more about the state of the industry by requesting more details from our ROV operator members to compile our annual statistics. Starting this year, we have requested data from IMCA members on the number of personnel employed in ROV activity both onshore and offshore and the total number of ROVs in fleets – rather than only those on operations at the time of data collection.

The number of submissions so far is low, and we encourage IMCA members operating ROVs to take part in the survey, which will be crucial in helping us to get a bigger picture of just how deep the personnel shortage is.

As work continues to address the shortage, a key concern for members in the division, the Committee has concluded that the ROV Training Steering Group will be made up of operators, training providers and ROV manufacturers. By including all aspects of the ROV stakeholder community it hopes to ensure that training provision is both sufficient and comprehensive enough that the continued supply of ROV technicians will be assured.

To find out more about IMCA's ROV statistics or initiatives, please contact: **chris.baldwin@imca-int.com**


Image: Divex

Time to talk PLCs in diving systems

Since 2010, diving systems featuring programmable logic controllers (PLCs) have undergone rapid development. With use of these systems set to continue to rise, IMCA has taken the initiative to future-proof by organising a workshop on 11 March 2015 to discuss the big issues.

Programmable logic controllers (PLCs) are digital computers used for the automation of industrial processes, such as control of machinery on factory assembly lines. Since the mid-1980s industry has placed increasing reliance on programmable safety-related systems and PLCs are now used in many industries, including the offshore oil and gas industry.

Today, for example, PLCs may be found in vessel DP systems, drilling machinery, offshore cranes, and offshore diving systems. They have been used in the past to control bell mating and launch and recovery systems, but are now being found in almost every aspect of some saturation diving systems including dive control, life support systems and chamber environments as well.

It is clear that in the future the use of PLCs in dive systems and the number of dive systems reliant on them is only going to increase – yet the diving industry as a whole knows little about the implications and impact these developments may have. Currently, most of the information and operational experience is held by only a few companies and there appears to be very little guidance available about how they work, how to audit/monitor the systems and the consequences of failure. Recent incidents have only emphasised this point.

"The workshop will be a great opportunity for members using these systems to get involved. It could shape future guidance."

PETER SIENIEWICZ
Technical Adviser – Diving, IMCA

Aims of the day

As part of our strategy to identify and anticipate developments in the sector and initiate appropriate responses to raise member awareness early, IMCA is hosting a workshop in Amsterdam on 11 March 2015. The aims of the workshop will be to:

- Bring together experts in the design and operation of PLC based diving systems;
- Assess the impact of the use of PLCs in diving systems;
- Discuss the training and development needs of staff working with PLC based diving systems;
- Consider how best to monitor, audit and maintain PLC based diving systems;
- Share experiences to date;
- Evaluate if there is a need for more industry guidance on the subject;
- Share knowledge and establish a way forward.

The workshop will be free to attend, but you must register in advance. If you would like to attend or be involved in the PLC workshop, contact us at: **events@imca-int.com**

New systems recognised

A range of new solutions has been designed for diving systems since we published IMCA D 015 and D 040, so to keep up with the changes, updated versions of both are on the way.

Draft texts of IMCA D 015 – *Mobile/portable/daughtercraft surface supplied diving systems* and IMCA D 040 – *DESIGN for mobile/portable surface supplied diving systems* were recently released for industry-wide consultation and revisions are now being made to the final texts.

Both documents have been updated to recognise the wide range in the capabilities of mobile/portable/daughtercraft systems: from a simple system comprising three air cylinders mounted in a frame in an inflatable boat (commonly referred to as SCUBA replacement) to quite large custom-designed daughtercraft with the ability to have two divers working in the water at the same time.

Image: Unique Hydra

Shock loads in air bag trials

To combat persisting problems with inadvertently released bags, dropped loads and runaway loads, IMCA is making major revisions to IMCA D 016 – *Underwater air lift bags* and, following some interesting results in recent air bag release tests, further recommendations for inverter line ropes may also be on the way soon.

"Much of the guidance produced to date is perhaps not as clear as it should be about the intended functions of inverter lines and hold-back lines," explains Bryan McGlinchy, IMCA's Diving Technical Adviser. "As a result, personnel may not fully appreciate the very different, and crucially important, roles that these lines play in preventing or mitigating incidents of this type. The revised IMCA D 016 will clarify key considerations when using inverter and hold-back lines in different types of lifts and will feature revised diagrams to illustrate their correct use."

Testing times

Correct use is one thing, but for an inverter line to perform its function the manufactured attachment point at the crown of the bag and the line itself must be strong enough to resist the snatch load generated by a rapidly ascending bag. This begged the question: for various types and sizes of parachute bags, what loads may be generated on the inverter line assembly by a rigging failure?

Graham Brading, of IMCA member company Unique Seaflex, describes a recent initiative to find answers. "Extensive trials have been undertaken over the past 6 months: a variety of sizes of air lift bags were intentionally released from a dead man anchor (DMA) to simulate a rigging failure, at which point the inverter line played its part in rotating the bag through 180 degrees. This rotation, or inversion, releases the air from the bag at the same time as tethering it to the load and preventing it from surfacing – which would pose a risk of entanglement in the thrusters of the dive support vessel above, with potentially serious consequences."

CLARIFIED IN THE REVISED D 016

- The purpose of an inverter line
- The correct use of an inverter line in dynamic lifts (where the air lift bag is used to lift the load directly)
- The inverter line is not intended to invert the parachute bag when it is still attached to the load and its rigging is still under tension
- The correct use of hold-back lines and rigging

Explosive results

5t and 10t air lift bags were remotely released under full load. The results indicated that snatch loading forces on inverter lines should not exceed about 80% of the bag load capacity.

> *"If the revised guidance is followed implicitly, I feel the diver's safety while performing operations using air lift bags will be greatly improved."*
>
> **GRAHAM BRADING**
> Managing Director, Unique Seaflex

However, further trials this year using a range of smaller bags produced unexpected results. Forces up to 160% of the bag load capacities were produced, with the smaller bags exerting the largest relative forces.

One suggested explanation for these results was that smaller bags tend to have a more "torpedo" like shape than the "mushroom-like" larger bags. As a result, the more "streamlined" small bags may achieve a greater velocity than the larger bags in the period between release of the rigging and tensioning of the inverter line. The greater the velocity achieved during this period, the greater the eventual snatch load on the inverter line. More trials are planned and IMCA is hoping to establish appropriate recommendations for the strength and type of inverter line ropes that should be used with a range of parachute bags.

IMCA input on bell diver training

IMCA has been part of an International Diving Regulators and Certifiers Forum (IDRCF) workgroup looking at saturation diver training. The workgroup, consisting of IDRCF members as well as IMCA, OGP and diver training schools has undertaken an in depth review of saturation diver training carried out internationally.

The workgroup considered the prerequisites for entry onto a sat diver training course, the minimum course requirements – which focused on the number and depth of actual dives undertaken during training – and the competences that the divers should be able to demonstrate. The workgroup actively sought industry input – particularly from IMCA's Diving Division Management Committee and appropriate section meetings – and prepared a report, proposing a common approach to sat diver training. It has also made recommendations for future improvements which IDRCF's considered at its recent meeting.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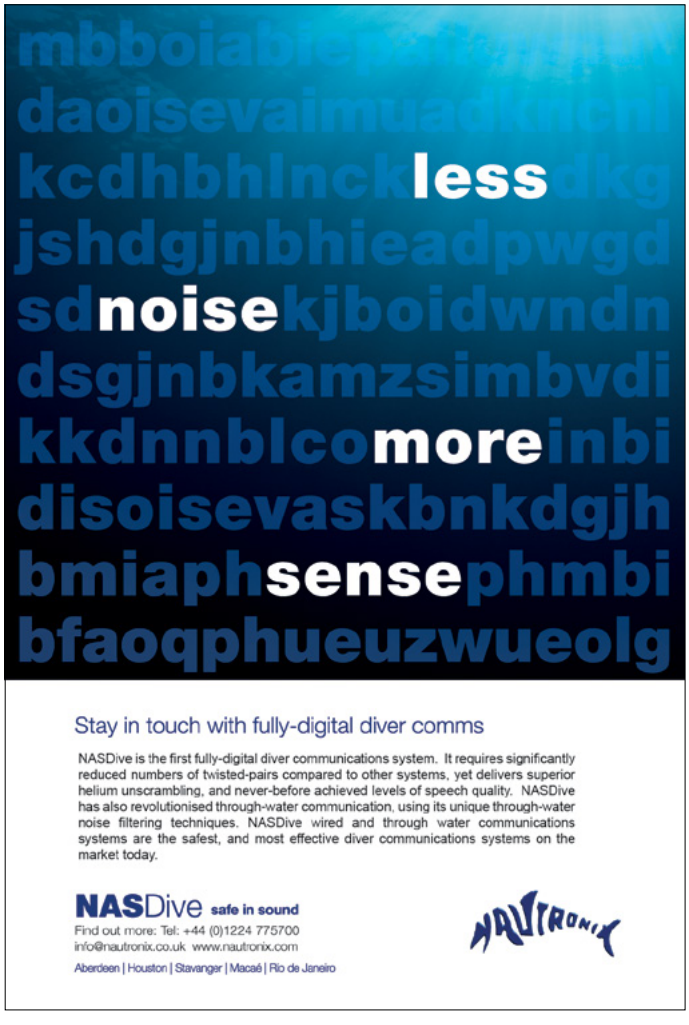
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FILTERING OUT bacteria in sat chambers

It is now known that the bacteria responsible for serious ear infections in divers in saturation chambers live in water, lurking in the pipes that bring in the sanitary water supplies. Point-of-use filtration, alongside other control measures, has recently been shown to offer an effective and immediate solution for controlling these pathogens throughout the offshore industry.

Image: Pall Medical

Saturation chambers are warm, moist and hyper-oxygenated, the ideal breeding ground for *Pseudomonas aeruginosa*, the main bacterial culprit for infections in divers. According to Steve Sheppard, Diving Services Manager for Helix Well Ops and IMCA Diving Division Management Committee member: "We previously assumed these bacteria were brought on board by the divers themselves but we now know that they are being introduced into the system through our water supplies."

Speaking as chairman of a conference on the problem and control of waterborne pathogens in offshore water supplies held in Aberdeen earlier this year, Steve explained that this could be why prevention measures such as good hygiene and prophylactic ear drops have never completely eliminated infections in divers. He stressed that in his experience, fitting point-of-use (POU) filters onto taps and showerheads in Helix's diving vessels "has had a marked effect in reducing these infections".

> *"POU filters are not the only solution, but they are definitely one of the measures we can use to reduce the risk to divers."*
>
> **STEVE SHEPPARD**
> Helix Well Ops

A case of control

Microbiology consultant Dr Tom Makin, also speaking at the conference, sponsored by new IMCA member Pall Medical, explained how pathogenic bacteria such as *Pseudomonas* and *Legionella*, which cause potentially fatal infections, build and live in biofilm, a slimy complex that 'sticks' to any inert surface, such as the insides of pipes, whatever material is used. As biofilm grows, up to 5% of these organisms will 'slough off' into running water, but 95% of microorganisms present in a water system remain in biofilm, providing a source of further contamination.

Conditions such as stagnant water and heat encourage biofilm growth, he said, while materials such as polymers found in pipes and tap fittings act as bacterial nutrients.

Important preventive measures include flushing and removal of dead legs to prevent water stagnation and full risk assessments of systems, including regular bacterial and temperature monitoring. Control options include use of correct water temperatures to prevent bacterial growth (cold water below 25°C and hot water above 55°C), regular water flow and thermal insulation of water pipes.

But Dr Makin emphasised that established biofilm is virtually impossible to eradicate completely: "POU filters are the only control measures that can be guaranteed to remove bacteria from water emerging from taps and showers," he said.

Dr Vicky Katsemi, European Marketing Manager of Pall Medical, described how Pall POU filters work by incorporating 0.2µm pores, fine enough to trap waterborne bacteria, into pleated filtration membranes that are twisted over to give a huge filtration area.

Seminar solution

Steve Sheppard discussed his trials of POU filtration in diving chambers in full detail at the recent IMCA Annual Seminar. He first became aware of the issue of bacterial load in water supplies, he said, through recent research from Norway. This demonstrated the use of 0.2µm Pall POU filters to combat *Legionella* found in potable water on several Royal Norwegian Navy ships.[1]

"Water taken from shore-side bunkers, despite routine control measures, can be vulnerable [to temperature changes and stagnation] and this is when bacteria can enter the system to develop biofilm. My data show that the bacterial load of water entering diving chambers has been significantly reduced when POU filters have been installed. POU filters are not the only solution, but they are definitely one of the measures we can use to reduce the risk to divers."

The full results of Steve's POU filtration trials presented at the IMCA Annual Seminar are available to members and delegates online at: **www.imca-int.com/events/annual-seminar**

REFERENCE
1. Ahlén C. et al, "*Legionella pneumophila* in Norwegian naval vessels" *Tidsskr Nor Laegeforen*; 133(14):1445-1448, Aug 6, 2013. (English & Norwegian).
(Presented at 4th Annual European Legionnaires' Disease Surveillance Network (LDSNet) meeting, Athens, September 12-13, 2013)
This article was kindly submitted by Susan Pearson BSc, a freelance journalist and communications consultant.

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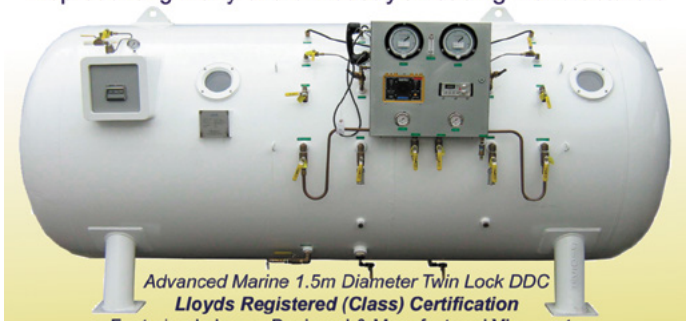

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IMCA SUPPLIER MEMBER

SPOTLIGHT ON DAVID RHODES

After several stints on the IMCA ROV and Remote Systems Committee spanning the past 13 years, David Rhodes of Harkand recently stepped up to the role of Vice-Chairman. When we caught up with David, who is an advocate of "getting involved with IMCA if you want to see change", he talked about his early days with ROVs, the industry today and what he thinks the next developments might be.

"I'd encourage everyone in the industry to get involved with IMCA. By being active you can influence change"

Rhodes to Aberdeen

"When I started work in Great Yarmouth in 1983 I had no idea that my career path would bring me to where I am today. I was 19 when I joined HMB Subwork at their engineering base, a role I held for just over two years. Then in 1986, the whole industry went down the tubes. HMB had to minimise their onshore overheads and as part of the restructuring I went offshore as a trainee.

"I spent the following ten years working my way 'up the ladder' from a trainee ROV Pilot Tech position to an offshore management one. In 1996 I joined Oceaneering as Southern North Sea (SNS) Operations Manager, but before long I was transferred into the diving division as most of their operations in the SNS were associated with diving. The division was sold to DSND Oceantech in 1997 and when DSND moved to Aberdeen in 1999 I moved with them in the role of ROV operations manager.

New beginnings

"In May 2002 Halliburton Subsea & DSND merged to form Subsea 7 and when DSND's previous Managing Director went his own way to co-found Integrated Subsea Services (ISS), I decided to take on a new challenge, and was the first person who joined him on day one, and have been here ever since.

"I'm proud to be a part of a company that has come such a long way. When we first started there were five of us with a couple of substandard ROVs. We built a company turning over £110 million – it was quite a transformation.

"Now – since Oaktree Capital's vision to form Harkand and bring us together with Iremis and Andrews Survey, and more recently Veolia Marine Services – we are part of a formidable group focused on the fast-growing subsea integrity management market.

Looking back

"I look back fondly on those early days of my career – they were exciting times. I actually worked in the factory to build the first Seaeye 600 series ROV prototype and then went offshore to operate it... it was a step change in eyeball ROVs. Although it was a pretty powerful piece of kit, it just wasn't very reliable which simply wouldn't be tolerated in today's market.

"At that time though, clients would accept the unreliability because of the cost difference. A task like inspecting spudcans on a jack-up, which might take a week with an ROV, was significantly cheaper than using divers – and you spent the best part of the week with the ROV out of the water, fixing it.

"But now, regardless of the cost, they may expect you to come onboard, be in the water an hour and a half, then pack your things up and go!

People and the future

"I remember clocking up something like 250 days in my first nine months offshore and at 29, I became one of the youngest offshore managers on the scene at the time. There wasn't a competence structure or career path for me to follow, my progression was a bit more 'organic'.

"I look at the industry today and think that the shortage of personnel coming in is a concern. There are good initiatives underway to help tackle the issues, like IMCA's ROV Training Steering Group, but what's really needed to encourage people to be enthusiastic about entering our industry is the appeal that it is consistent and stable in its growth.

Constant evolution

"In terms of technology things are consistent: that is to say things are consistently improving. I doubt that the industry is about to see a breakthrough like we saw when ROVs first started being used, but what I am certain we will continue to see is a constant evolution of the equipment used. For example, we have recently upgraded one of our ROVs to give it 300% more lighting and HD cameras.

"If you look back ten years, an ROV was equipped with higher spec recording devices and technology than the general public had access to. These days nine out of ten people have comparable, or even better, technology in their pockets or on their TVs!

"The proliferation of this technology will no doubt lead to ROVs having better functionality, sharper video and new improved 3D-type sonars, for 'seeing' in poor visibility, but in zero visibility conditions, there will always be a need for divers.

Being involved with IMCA

"If IMCA wasn't here, the major oil companies would dictate the standards to which companies had to operate. Through IMCA, the operators of the equipment can set the standards to satisfy the oil companies – the clients – as well as themselves.

"In short: if you don't participate and help shape the guidance, someone else will do it for you, and you may not get a result you consider positive. So the opportunity to be involved with IMCA is massive, it's so important."

Harkand is a growing global subsea Inspection, Repair and Maintenance (IRM) group. With offices in Aberdeen, Houston and London, they operate across the globe in North America/Africa and Europe. Harkand brings together a wealth of experience from Integrated Subsea Services, Iremis, Veolia Marine Services and Andrews Survey and employ nearly 1,000 personnel on and offshore. Their expertise is in subsea inspection, repair and maintenance as well as light construction, construction support and survey services, using high-specification assets.

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