

MAKING Waves



INFORMATION AND INSIGHT FROM THE INTERNATIONAL MARINE CONTRACTORS ASSOCIATION
ISSUE 82 • QUARTER 1 • 2017



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Allen Leatt
IMCA CEO

Welcome

to the Q1 2017 edition of *Making Waves*. In the first few months of the year we have been busy implementing many of the organisational and structural changes we worked on last year. 2016 was an important year for us in restructuring IMCA from an operational, legal and governance perspective. This has been achieved with the generous support of our members and in particular members of the OMC and Council. January 1, 2017 saw the new legal structure come to life with IMCA Holdings Ltd becoming the parent company of the Association, and the adoption of our new bye-laws incorporating all the recommendations generated during our 18-month long governance review.

In December 2016, the OMC approved a Transition Plan for implementing the changes to our bye-laws during 2017. The changes will be implemented in a measured way so as to cause as little disruption as possible. Please see the article on page 4.

If 2016 can be viewed as a restructuring year for IMCA, 2017 can be viewed as a year for strategy. We have been catching up fast with the rest of industry in terms of structure and cost base, now we need to lay out the Association's strategy and priorities for the next 5 years. The new board of directors is keen to prioritise this with the input of a management consultant to help accelerate the process.

Watch this space...



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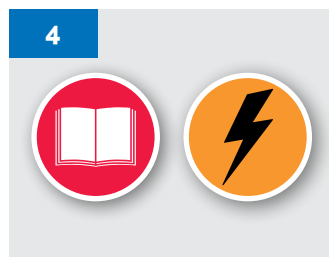
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Email: **makingwaves@imca-int.com**

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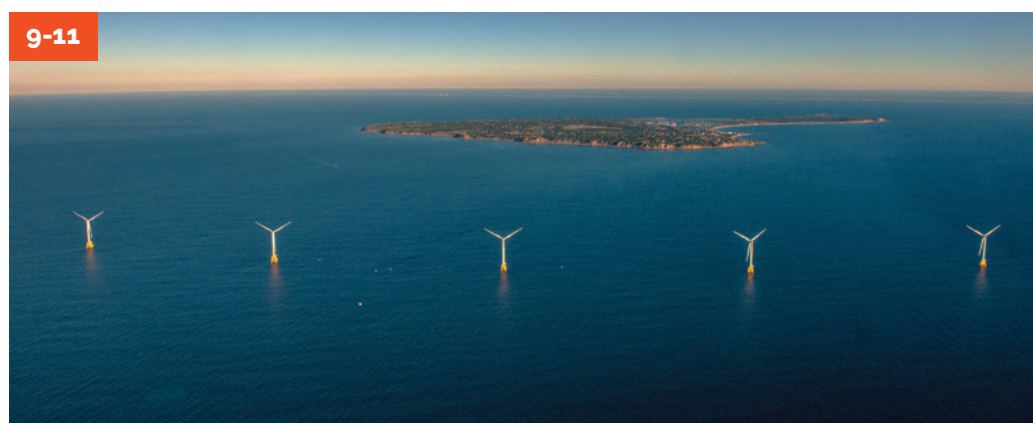
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Meet the team

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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 our membership 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

Wheels in motion on 2017 governance transition plan

As part of the many meetings and discussion on governance during 2015/16 the OMC and Council approved a transition plan for adopting the new governance arrangements in 2017. IMCA CEO, Allen Leatt, explains how things are progressing.

This plan is being implemented and addresses two elements: first, the use of certain tools for our committees and board, such as member induction, chairman briefing, terms of reference, and performance criteria; and second, committee composition and elections. This latter point is important in the sense that the Chairman and Vice-Chairman of our new Operations Committee will become members of the board of directors. The Operations Committee comprises the Chairmen of our all our committees. Consequently, we will conduct the elections in a timely way so that the board can benefit from the additional directors. 2017 was always going to be

a busy year for elections, we will however try to compress the schedule (see below).

An important change of principle to the previous election regime is that the committee Chairman and Vice-Chairman will be selected by the elected committee members, rather than by separate general election.

Another significant change is that hitherto we have had elections for regional Chairmen and Vice-Chairmen. Going forward we will have elections to form small regional committees, to help share the workload, who will select the Chairman and Vice-Chairman from amongst themselves. We will schedule all five regional



elections before the end of Q2. In the past we also had numerous elections for regional representatives to the technical committees. As and when these elections become due, we will now rely upon the networks of the regional committees to nominate representatives to the technical committees.

All these details are available in a user friendly Governance Handbook, even greater detail is provided in our articles of association and bye-laws which together make up our new constitution. These documents have been available on our website (see link below) since August of last year.

All committee members have been contacted separately, but the IMCA team is on hand to answer any questions on the plan.

For further information about IMCA's governance review and to view the constitutional documents, please visit: imca-int.com/about-imca/imca-governance

COMMITTEE ELECTION SCHEDULE

Committee	Date of election
Survey	Took place in February
Diving	In April – as previously planned
Marine	In April – as previously planned
ROV	Leave until 2018 as the last election took place in 2016
HSSE (was SEL)	Leave until 2018 as the last election took place in 2016
C&T	No elections for this committee, by nomination only
Lifting & Rigging	Leave until 2018 as the committee was new in 2016
Contracts & Insurance	No election: recently upgraded from workgroup status
Regional	Five elections to be held by the end of Q2

Documents update

The following new guidance has been published since the previous issue of *Making Waves*. We've also highlighted recent safety flash trends. All of IMCA's new (and revised) guidance, safety flashes and information notes can be found online by following the below link.



PUBLICATIONS

IMCA M 237/IMCA LR 009 – High performance fibre slings used for engineered lifts
IMCA REG 001/M 238 – Introduction to international marine regulation
IMCA REG 002/M 239 – Introduction to marine emissions
IMCA REG 003/M 240 – Introduction to

ballast water management

IMCA REG 004/M 241 – Guidance for port state inspections under the MLC
IMCA S 024/M 242 – Satellite-based positioning systems for offshore applications
IMCA CI 001 – Competition Law Compliance Policy
IMCA CI 002 – General Contracting Principles
IMCA CI 003 – Marine Construction Contract

Reclassified, reviewed, revised

A number of existing documents have been reclassified (in line with our new core committee structure), reviewed and revised. They are too numerous to list here, but are all available online (see the link below).



SAFETY FLASHES

IMCA has distributed safety flashes in 2017 covering safety procedures, falls from height, diver umbilicals and diving system audits.

IMCA posts a monthly round up of its new and updated documents. See the latest at: imca-int.com/news.aspx?filterby=IMCA%20Monthly%20Bulletins

IMCA website and document classification update

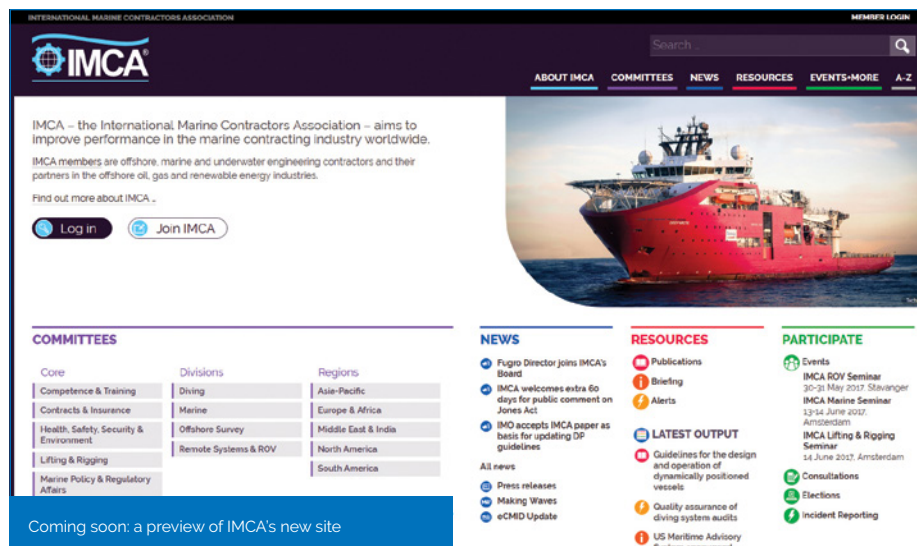
With the launch of IMCA's new website now imminent, we'd like to take the opportunity to answer some of the questions frequently asked by members about using our online resources, and explain how the website will work going forward.

IMCA's new website is due to be online very shortly and will represent a significant step forward in user experience for our members. Among the key changes from the current site are: larger, more legible text; a layout which adapts for tablet or smartphone use; navigation intended to help you quickly access the latest resources and find out how to participate at events and in other ways; and an updated colour palette and iconography from our monthly emails.

We thank members for their feedback on the previous site, which has helped us to plan and deliver this step forward. If you have feedback on the new site, we'd be interested to hear it at: website@imca-int.com.

Non-member document access

In September 2016, we made security updates to our website which will still apply to the new site. These changes meant that only IMCA members, logged in to the site could view and download our technical guidance. However, a question we have heard recently is: 'Does that mean that non-members cannot access and benefit from IMCA guidance?'



IMCA recognises that there are stakeholders in our industry that may not be members, but could well benefit from having access to up-to-date documents from our library. In such cases we would ask non-members to contact our membership services team (by email at: membership@imca-int.com). We will then quickly assess their request, ask them to accept the terms and conditions detailed online, and then email them the requested document.

Classification & revision numbers

We have also fielded a number of questions of late regarding documents which are included in more than one series – for example, *Guidelines for Lifting Operations* (LR 006, SEL 019, M 187) – and document revision numbers.

To clarify matters, we'd like to advise the following:

- When documents are included in more than one series, the first prefix used in its classification will denote the field of expertise or division to which the document makes the greatest reference. So, in the foregoing example – Lifting & Rigging.
- In future, if a document undergoes a major revision it will receive a new revision number. If revisions to a document are only minor or typographical, its current Rev. # will be sub-edited (Rev. 1.1, Rev. 1.2 etc.).

See the new website soon at:
www.imca-int.com

Welcome to our new members

IMCA is pleased to welcome the following new members

- African Marine Solutions Group (Pty) Ltd
- Daniel Surveying FZC
- Global Offshore Gases Nigeria Ltd
- H. Vassallo & Associates Ltd
- Jacks Dive Chest Commercial Diving School
- M2 Subsea Limited
- M2 Subsea Limited - North America
- Marine Consulting Del Sureste
- Middle East for Commercial Diving - MECD
- North East Subsea Limited
- Offshore Tech Dive Ltd (OTDL) - Training
- Reach Subsea AS
- SeaOwl France
- SeaPro Petroleum & Marine Services (Marine Contractors)
- Sinoship Marine & Engineering Consultants Co., Ltd
- Subsea Petroleum Services

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

Are you prepared to work safely?



Keeping safety material fresh and accessible remains vital to getting the message across in the modern world. After an extensive body of work, which began in 2015, IMCA has launched a new series of mini-videos to do just this – each with a supporting pocket safety card.

The question “Are *you* prepared?” is asked in each of the videos, before a number of safety prompts for different scenarios are talked through. The same messages are reinforced by the accompanying cards.

10 new videos, more to follow

The series launches with ten videos, each of which considers a different area of operations in which members should *be prepared to work safely*. The first card covers working at height and others deal with: preventing slips and trips; toolbox talks; manual handling; permits to work; hand safety; lifting operations; the line of fire; lifting equipment; and confined spaces. A further five videos (and accompanying pocket cards) are planned for later in 2017.

The videos have a new and refreshed look and feel for IMCA material, and feature animated characters designed to cross cultures,

boundaries and backgrounds. They are available in Arabic, English, Brazilian Portuguese, French, Indonesian, Italian, Latin American Spanish, Malay, Russian and Tagalog.

Download and share

The accompanying revised pocket cards are designed with a ‘less is more’ philosophy. Text is kept to a minimum to ensure the vital ‘do’s and don’ts’ stand out. The videos will be streamable and the print-ready artwork downloadable from the IMCA website. Member companies can download both and make them available to their staff.

Members can see the new material online at: imca-int.com/safety-environment-and-legislation/safetypromo



IMCA's flagship lifting guidance set for review

IMCA's Lifting & Rigging Management Committee has tasked a workgroup with the revision of *Guidelines for Lifting Operations* (LR 006, SEL 019, M 187).

Representatives from IOGP have been invited to take part in assisting with the development of the revision – and the final document may feature an IOGP series number too.

The revised document will include supplements on: subsea lifts, lifts involving diving operations, lifting of personnel and ship to ship lifts. It will cover the essential elements to be included in company procedures for lifting operations. The fundamental objective of the guidance is that if each step of its outlined lifting process is followed, then every lift should be carried out in a safe manner because it is:

- completed within an appropriate safety management system;
- properly planned, risk assessed and supervised;
- carried out by competent personnel using the proper, certified equipment.

IMCA working for equivalency in offshore C&T criteria



Given the continuing growth of the renewables sector, and the number of personnel who are migrating to it from oil and gas, a current area of interest for the Competence & Training committee is the transition of skills between the two sectors.

IMCA members may be aware that there is a judicial review underway in the UK looking into the issue of offshore safety training equivalency. IMCA has been working on this subject with other industry trade associations for some time which is of importance, not

just in the UK but regionally too. IMCA is a member of the Wind Industry Collaboration Committee, an industry body whose membership also includes the G+, the Global Wind Organisation (GWO), RenewableUK (RUK), Wind Europe, Cross Wind Network and is supported by the Energy Institute. It is through this body that harmonisation of requirements can best be achieved, without unnecessary duplication of effort. IMCA is not alone in supporting industry agreement on equivalency of some aspects of offshore safety training certification.

IMO Update



Interim MSC 97 decision on industrial personnel

The IMO Maritime Safety Committee (MSC 97) agreed a non-mandatory interim solution for the safe carriage of industrial personnel onboard offshore industry vessels engaged on international voyages.

The transfer of industrial personnel has been a subject of discussion for several years, which has become particularly urgent as a result of the rapid growth of the offshore renewable energy sector. The committee has now adopted a resolution on industrial personnel – a voluntary instrument which serves as an interim measure until the new, relevant SOLAS chapter and mandatory code enter into force in 2024.

The new SOLAS chapter and code will be aimed at ensuring the safe and efficient transfer of technicians servicing offshore installations. The new chapter and code are being developed by the Sub-Committee on Ship Design and Construction (SDC), which last met on 13-17 February 2017.

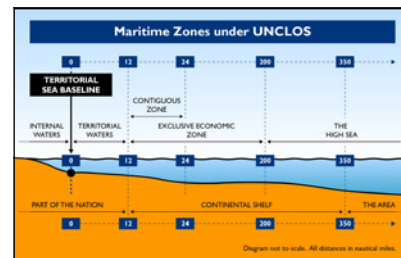
IMCA Regulatory Update 12/16 contains more information on the issue (see link below).

Ballast water

On 20 January 2017 the IMO Sub-Committee on Pollution Prevention and Response (PPR 4) issued *Guidance on methodologies that may be used for enumerating viable organisms for type approval of ballast water management systems (BWMS)*. The document provides information on meeting the ballast water performance standard described in regulation D-2 of the Ballast Water Management (BWM) Convention.

In addition, PPR 4 finalised and sent to MEPC 71 for final approval, the manual entitled *Ballast Water Management – How to do it*, which offers advice on the process of ratification, implementation and enforcement of the BWM Convention.

IMCA launches regulatory guidance



IMCA has published the first of its new range of guidance documents, offering introductions to the 'essentials' of marine policy and regulatory issues.

The following four regulatory guidance documents have been issued: *Introduction to international marine regulation* (IMCA REG 001), *Introduction to marine emissions* (IMCA REG 002), *Introduction to ballast water management* (IMCA REG 003) and *Guidance for port state inspections under the Maritime Labour Convention* (IMCA REG 004).

At present, IMCA's Marine Policy & Regulatory Affairs team is finalising the establishment of its Core Committee. The mission of the new committee will be to: promote transparent dialogue; foster member engagement in establishing IMCA priorities for policy and regulatory affairs; and to co-ordinate and drive the other committees when it is identified that they have the required knowledge and expertise to take ownership of particular issues.

For more information about any of the resources mentioned, please contact us at: info@imca-int.com

See IMCA RU 12/16 for more on Industrial Personnel at: goo.gl/aGPYMd

Brussels briefing



In January 2017, IMCA participated in the 13th session of the EU Offshore Authorities Group (EUOAG) in Brussels, which aims to achieve common positions on policy and regulatory matters affecting the operations of offshore contractors.

During the session IMCA Policy and Regulatory Affairs Adviser, Eleni Antoniadou, gave a presentation on IMCA's reporting tools, the key role marine contractors play in supporting offshore safety and how

IMCA's work fits in with the EUOAG's objectives of major accident prevention and response in offshore oil and gas operations. The meeting was attended by national regulatory authorities, EU Commission officials and other industry representatives. It focused on issues such as: steps towards an energy-specific strategy for cyber security; safety and environmental protection during operations in deepwater and high pressure conditions; and liability for offshore accidents.

For more info on regulatory and IMO issues, contact: info@imca-int.com

Contribute your expertise at IMCA's 2017 seminars



IMCA's programme of technical seminars continues in May and will feature some of our established events, as well as the launch of some brand new ones. The events see subject matter experts from IMCA member companies come together to tackle significant technical issues affecting our industry and are a great opportunity for members to get involved, raise questions and build relationships.

An ROV seminar gets the ball rolling on 30-31 May in Stavanger. Although IMCA has hosted ROV workshops before, this event will be a somewhat more comprehensive look at the future of the ROV sector. Further details can be seen on page 15.

Events grouped for added value

Part of the ethos behind the new range of seminars is to maximise the value of attendance for members, while minimising their costs. With this in mind, we have grouped them together with workshops and regional meetings wherever possible in 'hub-events'.

The first hub-event of this kind takes place in Amsterdam on 13-15 June at Novotel Schiphol Airport: the Europe & Africa Region Meeting will take place on the Tuesday (13); the Lifting & Rigging Seminar – formerly known as the Rope Forum Workshop – will take place on the Wednesday (14) and is

titled *Slings & rigging: the soft revolution*; while the Marine Seminar, which addresses *Practical vessel assurance for safe & efficient operations*, will take place over the Wednesday and Thursday (14-15).

Where next?

Further seminars are planned to cover security and diver medical issues (in London in September); another hub-event featuring the Asia-Pacific Region Meeting and diving, marine and ROV seminars will take place in Singapore in November; and Houston has already been identified as a potential location for a marine seminar in 2018.

See the full programme, and more details on each event at:
imca-int.com/events/imca-technical-seminars

IMCA expertise at industry events

On 25 January IMCA participated in the 15th Vessel Efficiency & Fuel Management Summit, which focused on challenges faced by the shipping industry relating to staying compliant and efficient. IMCA's Technical Manager, Mark Ford, and Policy & Regulatory Affairs Adviser, Eleni Antoniadou (pictured), gave a joint presentation on compliance with IMO Regulations affecting marine fuel and overall vessel efficiency.

Meanwhile, Chris Baldwin, Technical Adviser, represented IMCA on the 'industry leaders panel discussion' on topics including personnel transfer safety issues, at RenewableUK's annual health & safety conference in Edinburgh.



Read more about events IMCA supports and organises at:
imca-int.com/events

WORLD-WIDE EVENTS

The full list of events we are running, supporting and attending can be seen at: www.imca-int.com/events

Key to events shown below:

- IMCA events
- IMCA is supporting & attending
- IMCA is supporting

MARCH

- 22:** Asia-Pacific Region Meeting
Jakarta – Indonesia ●

APRIL

- 4-6:** Ocean Business
Southampton – UK ●
- 25:** eCMID AVI Conference
Amsterdam – the Netherlands ●
- 25-27:** Sea Asia
Singapore ●
- 25-27:** International Offshore Crane & Lifting Conference
Stavanger – Norway ●

MAY

- 1-4:** OTC
Houston – USA ●
- 3:** North America Region Meeting
Houston – USA ●
- 10-11:** All Energy
Glasgow – UK ●
- 17:** Middle East & India Region Meeting
Mumbai – India ●
- 30-31:** IMCA ROV Seminar & eCMID Workshop
Stavanger – Norway ●

JUNE

- 13:** Europe & Africa Region Meeting;
- 14:** IMCA Lifting & Rigging Seminar (formerly the Rope Forum Workshop);
- 14-15:** IMCA Marine Seminar
Amsterdam – the Netherlands ●
- 20-23:** Brasil Offshore
Macaé – Brazil ●
- 21:** South America Region Meeting
Macaé – Brazil ●

INSIDE INSIGHT: THE DAWN OF US OFFSHORE WIND

Deepwater Wind's President takes us behind the scenes

On 12 December 2016, the first US offshore wind project, situated about 3 miles off the coast of Block Island, Rhode Island (RI), started delivering power to the US national grid. In this exclusive interview, Deepwater Wind's President – both former IMCA SEL Chairman and Chief Operating Officer of Heerema Marine Contractors – Chris van Beek, gives us a look behind the scenes at some of the operational, logistical, regulatory and contractual challenges that were overcome to deliver the project.

Switching from oil & gas

In 2009, a few factors aligned at just the right time to make the Deepwater Wind project the right move for me. I had been in offshore oil & gas with Heerema for a number of years, but the industry was being affected by the global financial crisis; through my connections, one of whom was an ex-BP executive who happened to be on the board of Deepwater Wind, I heard about the opportunity to become involved with the project. I was 55 years old, full of energy, with kids who were now independent; so the timing was right and everything came together to make a great opportunity to do something different in life.

Deepwater Wind realised that for an offshore construction project of this kind, it would be advantageous to have an offshore expert onboard. Although I wouldn't say that I'm an 'environmental fanatic', I do think we have to do

something about the environment, and renewables should definitely be part of the mix in the future. I suppose that was also an element in my decision to move to the United States to join the project.

Timeline and contingency planning

The 30MW Block Island project was first proposed in 2008 and, after going through the necessary steps of acquiring the Power Purchase Agreement (PPA) and permits, and completing design and fabrication of the foundations, the first 'steel was in the water' in 2015. We ordered the 6MW Haliade 150 turbines – from Alstom (now part of GE) – quite early in the process to ensure we qualified for federal Investment Tax Credit.

Overall, we were very pleased with how the project was completed; the commercial operation date was met in line with planning. As IMCA's readers will appreciate, with offshore construction there are always challenges, but our

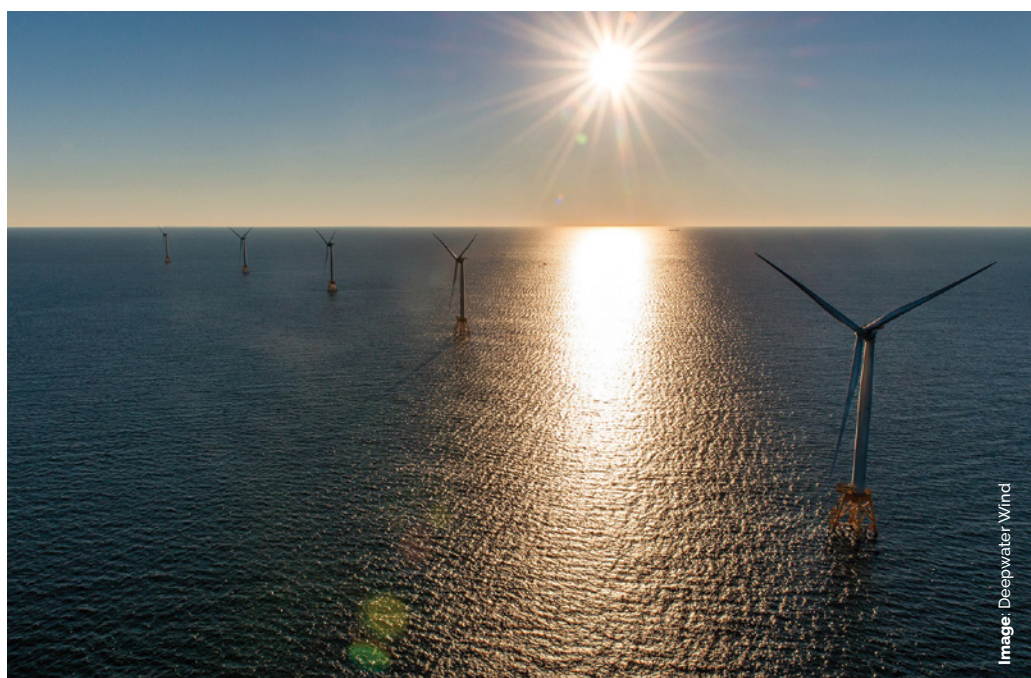


Image: Deepwater Wind



“The ‘IMCA standard’ could set the bar, becoming the standard for wind farm construction in the US.”

Continued on page 10

INSIDE INSIGHT: THE DAWN OF US OFFSHORE WIND

Continued

careful contingency planning – including a two season installation – meant that we were prepared to adapt to remain on schedule. For instance, we had some delays with the grouting of the foundations. We could have finished them in 2015 but, as we were running into November and the temperatures were dropping, we agreed it would be better to complete this part of the construction in May 2016. Our risk mitigation plan worked very well and we were able to take advantage of the little extra time we had allowed in the schedule.

Similarly, the cable from the island to the mainland was late coming online, but again we were still able to stay on schedule. This is because in our contingency planning we had allowed for a temporary power generation system on the island to support the commissioning of the turbines in September 2016. As a result of this ‘pre-commissioning’, when the cable came online in October, it was actually very fast to get the final commissioning completed. We were able to declare commercial operation of the wind farm on 12 December.

Purpose built contracts

We had a multi-contract strategy for the project, because there isn’t one company who is competent to cover all the areas of the wind farm. Our strategy was to give each package to a very competent supplier, knowing we’d get our product on time and at good quality. We tried to

minimise the number of contracts too.

For example, for the design of the foundations, we started with Keystone Engineering in New Orleans. Having identified Gulf Island Fabrication as our preferred supplier for fabrication, we asked them to take the design of the foundations in the scope of their contract as well. Because they have known Keystone for a long time, have worked together and have a relationship, they said ‘that’s fine’. So we ended up with a design and fabrication contract for the foundations, which was very good. If something were to go wrong with a foundation, you may not know if the cause was in the design or fabrication; with both tied up in the one contract, it certainly offered peace of mind.

There were a number of other contracts for the installation of the foundations, the transmission system, the turbines and the installation vessel for the turbines. We have our own legal counsel, so we were able to use pretty much purpose built contracts with each contractor. We used the normal construction ‘all risk’ setup, with the ‘knock for knock’ system, where contractors were responsible for their own components until they were delivered to the project.

We set up our own project management team, which I led. We had a team of ‘veteran’ experts, each of whom managed a package (such as the turbines, the turbine installation, the subsea system, the foundation system). We had our own quality, safety, interface and

risk management procedures. These were all reviewed by the lender’s engineer, who was very happy with the system. Our attention to detail with these procedures was also helpful when we were dealing with the US Coast Guard.

The Coast Guard in Rhode Island (RI) is very practical, and we worked closely with them and explained all the plans. They use a system called ‘new to the zone’ inspection. This is a comprehensive vessel inspection, in which they need to see emergency response plans and drills. This took place for the turbine installation vessel (Fred. Olsen Windcarrier’s self-propelled jack-up vessel *Bold Tern*) and feeder barges, and all went well. We took the USCG very seriously and, having prepared all the procedures, passed all of their inspections.

“It was a very efficient installation: in total, the jack-up vessel was only waiting for the feeder barges for 3 hours, which was excellent performance – and all five turbines were erected in 18 days.”



Image: Deepwater Wind

Image: Deepwater Wind



“ We had a healthy mix of local labour and very experienced personnel, the project was delivered on time and it achieved an excellent safety performance record too. ”

An efficient installation

The nacelles were loaded onto the deck of the *Bold Tern* in France and sailed directly to the installation site in RI. The towers and blades were transported from France to a marshalling yard in RI where they were put onto American feeder barges (from Montco). A feeder barge then made its way offshore to the wind farm, where the *Bold Tern* was already positioned. The towers were lifted from the feeder barge and placed onto their foundations. Next, a nacelle could be lifted from the deck onto the tower. Finally, the blades were lifted from the feeder barge to be attached to the nacelle.

That process completed the installation for one turbine; and was then repeated for the other four turbines. There were two feeder barges, which shuttled back and forth while the *Bold Tern* was at work. It was a very efficient installation: in total, the jack-up vessel was only waiting for the feeder barges for 3 hours, which was excellent performance – and all five turbines were erected in 18 days.

Knowledge, experience & personnel

Although the North Atlantic is a new business location, the environment was actually pretty comparable, workability-wise, with the North Sea and a number of systems were directly transferable from the best practice from Europe. For example, the crew transfer vessel (CTV) we used (which was built in RI) featured exactly the same boat landing system as those used on North Sea projects.

The local maritime company we used, who owned the boats and provided the captains and

mates, were very keen to learn from UK and European practices. In fact, the captains of the CTV we used went to the UK for training. The result is that local companies and people can already apply the best practice from Europe in the North East of the US; they've really hit the ground running in that respect.

For the construction phase on a project like this you need people with real experience of working in an offshore environment. We know that IMCA guidelines are pretty much enforced in Gulf of Mexico (GoM) operations and as a result, from this pool, we were able to choose companies with good safety track records to work with.

We had a healthy mix of local labour and very experienced GoM personnel, the project was delivered on time and it achieved an excellent safety performance record too.

The future of US offshore wind

We hope that, off the back of this project, the importance of the renewables industry for the region will be recognised. We now have a number of personnel trained-up and ready for the next project and I feel optimistic about the future.

For us, the wheels are already in motion on the next project: South Fork Wind Farm – a 90MW, 15 turbine installation between Block Island and Martha's Vineyard, which just recently had its PPA approved by the Long Island Power Authority (in late-January). It is projected to come online in 2022, with further wind farms planned in 2023 and 2024. At that point, I believe we really will see offshore wind becoming serious business in the US.



Image: Deepwater Wind

One of the challenges here is the time lag involved with sourcing the PPA, doing the permitting – which is a three-year effort – before you can get on to building. But really, I see the bigger driver being the economics. If you look at how the recent bid prices have fallen in Europe – an offshore wind farm for as little as 7 cents per kWh; that's the kind of cost level we need in the US too. It is still a little expensive to export this kind of technology to the US, but once we can utilise it too, I think we'll see a major breakthrough in the industry here.

IMCA's place in the market

I have a long history with IMCA. I think it's a great organisation, which is very effective at improving safety and quality amongst its members and the industry. As renewable energy takes off in the US, I certainly would expect the companies involved in the construction, such as installation contractors, to want to benefit from IMCA membership.

Looking ahead to who the suppliers and contractors will be for the next generation of wind farms in US, signing them up as members, engaging with them and promoting the benefits of being a part of the Association would be a good starting point for IMCA. That way, the 'IMCA standard' could set the bar, becoming the standard for wind farm construction in the US.

DYNAMIC DEVELOPMENTS

With the bold aim of 'improving the safety and efficiency of Dynamic Positioning (DP) operations', IMCA continues to deliver updates and refinements to its industry recognised technical guidance. IMCA's Technical Adviser – Marine, Andy Goldsmith, talks us through: what's new in the latest revision to 'M 117'; how we are involved with IMO's latest work on its guidelines for vessels with DP systems; and how we've consolidated a number of resources on DP Annual Trials into one simplified document.

I start by pointing out that we are aware our stated aim is bold. We want to improve the safety and efficiency of DP operations, by defining minimum industry guidelines for:

- training, qualification and competence levels of key DP personnel;
- developing and sustaining competence through continuous professional development (CPD) for key DP personnel.

However, with the majority of the world's offshore DP vessels being operated by IMCA member companies, providing the guidelines are followed, our aim is achievable.

What's new in M 117?

One such guideline covers the training and experience of key DP personnel (IMCA M 117). We have just completed the second major revision of this document and, while its core content remains unchanged, there are some significant updates.

The guideline now takes account of the additional dynamic positioning operator (DPO) training schemes that are available, suggesting alternative content and formats for training, rather than making sole reference to the Nautical Institute scheme. Additionally, the requirements for training key DP technical personnel are better defined. A new section (5) has been inserted which more clearly sets out

the roles that are considered to comprise 'key DP personnel'. This new section introduces the important role of a Company DP Authority.

Section 9, previously entitled 'Principles and practice for maintenance of personnel skills', has been retitled and completely rewritten in a new section (10) 'Key DP personnel continuous professional development (CPD)'. This change was as a result of it being recognised that CPD – the systematic maintenance, improvement and broadening of knowledge, understanding, personal qualities and skills throughout an individual's working life – is now used in many industries. IMCA uses CPD as one of the measurements when accrediting vessel inspectors within the eCMID scheme. It is anticipated that the level of competence of personnel will improve as more companies are encouraged to embrace the principles of CPD.

Reception and IMO involvement

The updates to M 117 (Rev. 2) have been well received and the guidance continues to be regarded as industry standard. This is evidenced by the fact that IMO MSC/Circ.738/Rev.1 – *Guidelines for dynamic positioning System (DP) operator training*, which recognised M 117's first revision, is being updated to reflect the changes in Rev. 2.

Further to this, on 3 February 2017, the IMO



"We want to improve the safety and efficiency of DP operations... and with the majority of the world's offshore DP vessels being operated by IMCA member companies, providing the guidelines are followed, our aim is achievable."

ANDY GOLDSMITH

IMCA Technical Adviser – Marine

Sub-Committee on Human Element, Training and Watchkeeping (HTW 4) also decided to make a reference to M 117 in the Standards of Training, Certification and Watchkeeping for Seafarers (STCW) Code. However, the work with IMO doesn't stop there.

IMCA has been involved in a project with IMO for a number of years to revise IMO Circular 645 – *Guidelines for vessels with dynamic positioning systems*. The initial submission, proposing the revision, was made by IMCA, IADC and the US to IMO MSC 90 in February 2012. A workgroup of subject matter experts (SMEs), led by IMCA, submitted proposed amendments to the Ship System and Engineering (SSE 2) sub-committee in December 2014. IMO decided that the work to revise the document could be undertaken by SMEs as part of a correspondence group. This group was formed under the direction of Norway and will submit its final report to the SSE 4 sub-committee in March 2017. It is anticipated that the amended version of IMO 645 will be accepted by the IMO Marine Safety Committee at its meeting in June 2017. The revised document is in line with modern

IMCA renewable workgroup change

During 2016 responsibility for the work of IMCA's Renewable Energy Workgroup was transferred from its Europe & Africa Region to the Marine Division. An early example of the benefit of this change is that a new appendix has been written for IMCA's guidance on the design and operation of DP vessels (IMCA M 103) covering service operation vessels (SOVs) for the renewable sector.

On the topic of SOVs, IMCA members engaged in the renewable sector have recently raised concerns as to whether the DPO training currently being conducted is suitable for the DP operations of vessels in the sector. IMCA is therefore working alongside the Nautical Institute to determine the best way of providing training for DPOs employed on SOVs in the renewable sector.



Image: Siemens AG



Image: IHC Merwede/Subsea 7

thinking on operational and testing techniques, and will see the conclusion of the revision five years after the first submission to IMO.

IMO Circular 645 details

The revision has resulted in an increase in the number of definitions contained from nine to twenty-six. To ensure consistency in future IMCA guidelines and revisions, we will match the definitions used in IMO 645.

The changes reflecting design concepts will only be introduced for vessels built after the introduction of the revised guidelines. However, the operational and training part of the guidelines should apply to all DP vessels including those already in operation.

The functional requirement changes include:

- The requirement for at least one automatic power management system (PMS) and the possible use of alternative energy storage for sources of power to thrusters;
- A new sub-section emphasising the required isolation and integrity of DP systems from other onboard computer systems;
- Operational requirements bring in:
- the need to make use of current decision

support tools such as activity specific operating guidelines (ASOGs) and capability plots; and the requirement of a black out recovery procedure, including a list of critical components;

- For the first time the guidance highlights the requirement for equipment class 2 and 3 vessels to carry out an FMEA.

There will be a new section on training, that refers to the provisions of the STCW Code and MSC/Circ.738. I gave a more comprehensive overview of the changes to '645' in my presentation at OSJ's European DP Conference in February – the slides can be viewed here: www.imca-int.com/media/285684/edpc-ago.pdf

DP trials

Another area of DP in which IMCA offers well respected guidance, which is used throughout the industry, is that of DP annual trials. Over the years a number of documents have been

added to our range of guidance on the topic. To make the requirements more readily understood, we have consolidated these resources into one document, with simplified terminology. The amalgamated document will keep the IMCA number M 190, but has an updated title, *Guidance for developing and conducting DP annual trials programmes* and covers a DP annual trials programme for a five year period.

The specific guidance for mobile offshore drilling units (MODUs) which previously featured in IMCA M 191 has been included as an appendix in the revised M 190. Publication of the revised M 190 will see the following documents withdrawn:

- Guidance for developing and conducting annual DP trials programmes for DP vessels: Executive summary (M 190A);
- Guidelines for annual DP trials for DP mobile offshore drilling units (M 191);
- Example of an annual DP trials report (M 212).

See the new documents online:

M 117: imca-int.com/media/73073/imcam117.pdf

M 190: imca-int.com/media/73506/imcam190.pdf

eCMID 2017 workshops and inaugural conference

As part of the 'continuous improvement' philosophy behind IMCA's eCMID tools, a number of workshops have been planned in 2017 to educate, explain and, most importantly, get feedback from the user community. To maximise the benefits without incurring additional costs, the workshops have been paired up with IMCA's range of technical seminars, which kick off in Stavanger in May, before moving to Amsterdam

in June and Singapore in November. The theme of the workshops will be *eCMID's contribution to vessel assurance*.

This year will also be marked by an inaugural accredited vessel inspector (AVI) Conference, being held in Amsterdam on Tuesday 25 April. The event will be organised by the International Institute of Marine Surveying (IIMS), with support from IMCA.



Read more about the events in the eCMID & AVI Update at:
imca-int.com/cmupdate

IMCA considers diver reclaim gas purity



IMCA has been assisting the UK Health and Safety Executive with its review of HSE Diving Information Sheet 9. As a result, IMCA is planning to publish its own guidance for the first time on the composition of heliox mixtures in saturation diver reclaim systems.

IMCA recently provided expert assistance to the UK Health and Safety Executive (HSE) during its review of HSE Diving Information Sheet (DVIS) No 9. For a considerable number of years the main HSE guidance on the quality of divers' breathing air has appeared in this publication. Revision 1 of DVIS 9 was published in June 2008 and was entitled, *Diver's breathing air standard and the frequency of examination and tests*.

However, when the European standard specifying the quality of compressed air for breathing apparatus (BS EN 12021:2014) was revised and expanded to include all compressed breathing gases (not just air), it was evident to the HSE that DVIS No 9 should be revised and updated.

IMCA assists with DVIS 9 revision

During the process of revising DVIS 9, the HSE approached IMCA for information and advice on the purity of heliox mixtures within saturation diver reclaim breathing gas systems. It was recognised that the levels of nitrogen, moisture and carbon dioxide (CO₂) found within saturation diver heliox reclaim systems was likely to be higher than the maximum allowable concentrations quoted in the European standard. In view of this, the HSE and IMCA worked together to produce specific guidance on safe and achievable limits for these impurities within such systems.

DVIS 9 (Revision 2) – *Diver's breathing gas*

standard and the frequency of examination and tests will be published shortly. This document will make it clear that in HSE's view:

- Within the HSE's jurisdiction the maximum allowable concentrations of contaminants quoted in the European standard for breathing mixtures of oxygen and helium should be fully met by industrial gas suppliers who provide heliox mixtures for saturation diving operations;
- It is recognised that heliox mixtures found within saturation diver gas recovery (reclaim) systems are likely to have higher levels of moisture, nitrogen and carbon dioxide than the maximum levels specified in the European standard. Acceptable limits for these three impurities within saturation diver heliox reclaim systems are now set out in DVIS 9 (Revision 2).
- Where the source of the divers' breathing gas is a compressor system (including a reclaim compressor system, unless deemed 'oil free' by the original equipment manufacturer), then periodic testing should be carried out to make sure that contractors' control measures are delivering the gas quality required.

In view of the work that has been done, IMCA, for the first time, is planning to produce guidance on the composition of heliox mixtures in saturation diver reclaim systems. It is likely that the new guidance on this subject will be added to Section 9.14 of IMCA D 022 – *Guidance for diving supervisors*.



Fit for anything!

IMCA's Diver Health and Medical Issues workgroup has completed the first draft of a proposed new IMCA guidance document entitled *Guidance on health, fitness and medical issues in diving operations*.

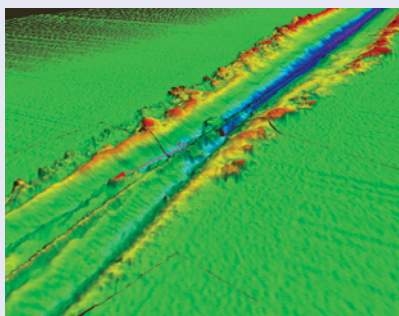
The draft guidance recommends that diving contractors consider taking a more proactive approach to the management of their divers' medical and physical fitness, and suggests how this might be accomplished. It also seeks to encourage a culture of good health and high levels of physical fitness amongst divers themselves.

An industry-wide consultation on the draft text is currently underway.

Closed bell diver rescue

The first draft of another important new IMCA guidance document has been circulated recently for industry-wide review. *Guidance for an incapacitated diver rescue during closed bell diving operations* collects current industry thinking and good practice on this complex and emotive subject into one place. The guidance will be comprehensive, covering:

- the actions of the supervisor, bellman and rescue diver;
- gas supply management during a rescue;
- the provision and use of rescue equipment, including harnesses, lifting hoists and spreader beams;
- medical competencies, considerations and equipment (including the provision of first aid and CPR in a closed bell).



Sharing survey guidance

IMCA's Offshore Survey and Marine Division Management Committees are continuing to work together to ensure that certain survey-related documents are also made available to the marine and DP technical communities.

Here is a short overview of the new and revised documents which will provide guidance to members of multiple divisions.

Available now

Guidelines on the shared use of sensors for survey and positioning purposes (IMCA S 023) and *Guidance on satellite-based positioning systems for offshore applications* (IMCA S 024) have now been issued as Marine Division publications – M 235 and M 242 respectively.

A revised version of *Deep water acoustics positioning* (IMCA S 013/M 200) has also been republished.

Coming soon

A revision to *Guidance on vessel USBL systems for use in offshore survey, positioning and DP operations* (IMCA S 017) will also be republished with an M reference number and a slight amendment to the title – the insertion of 'and DP'.

During 2017 the Offshore Survey Division Committee intends to develop guidance on pipeline out of straightness survey and – in co-operation with the ROV committee – guidance on the shared use of ROV sensors for survey and positioning purposes. Also under consideration is possible guidance on GNSS heighting.

Links to IMCA's Offshore Survey documents can be found at:
imca-int.com/offshore-survey-division

IMCA seminar to reveal the future of ROVs



What does the future look like for the operation of remote systems & ROVs? This is the theme of IMCA's first technical seminar of 2017, which will take place in Stavanger 30–31 May.

Planning is in full swing for the seminar, which is designed to offer IMCA's Remote Systems and ROV Division members the opportunity to come together to consider the current and future state of the industry and discuss solutions to the operational, personnel, environmental and technological challenges ahead.

The event will examine key issues affecting the industry such as:

- the future operational opportunities presented by new technologies
- the impact of new technology on operational procedures and safety;
- the management and sustainment of the ROV technician professionals needed to operate ever more complex and capable systems;
- ROV umbilical testing and resilience.

Technical sessions and 'shop floor'

Conducted over two days, the event will be divided into 'technical' and 'resource management' focused sessions. The opening session will feature a keynote presentation from Statoil on the future of the ROV industry. The following sessions will feature presentations from ROV contractors, system suppliers, technical scientists and academics.

These presentations will be used to promote and inform discussions in themed workshop and 'brains' trust' panel sessions – comprising key figures from the Association's Remote Systems

and ROV Division.

The event will be chaired by Graham Duncan of TechnipFMC, the Chairman of the ROV Division Management Committee. In addition to the technical sessions, there will be a suppliers' 'shop floor' event on the evening of day one followed by a drinks reception sponsored by Lubitec.

Logistics and registration

The event's registration desk will open at 11:30 on Tuesday 30 May. A lunchtime ice breaker session will follow, before the technical content kicks off at 13:15. This is to allow delegates flying into Stavanger to attend without the expense of an extra night's accommodation.

Oceaneering International will host the event at their facility. While the event will be free for IMCA members and invited guests to attend, confirmed registration will be required in advance of the event.

For the latest information in the lead up to the event, please visit:
www.imca-int.com/events/imca-rov-seminar

To register your place at the event please contact us at:
events@imca-int.com

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