makingwaves Issue 65 - December 2012 news from the International Marine Contractors Association

IMCA GOES DUTCH **OUR ANNUAL SEMINAR** IN THE NETHERLANDS

ARCTIC DIVING SECURITY ISSUES



makingwaves issue 65 CONTENTS













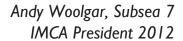








From the **President**





My 2 year term as IMCA President finishes at the end of 2012. The role is honorary but includes chairing the IMCA Overall Management Committee (OMC) and Council. OMC is responsible for IMCA's successful management, creating direction and working with the secretariat to deliver the association's work programme, whilst Council provides support and guidance to OMC from senior representatives of IMCA's ICO members. I have enjoyed the role, and have seen firsthand and been impressed by IMCA's delivery at a number of venues and events. The gestation of some of what we have delivered during my term, for example IMCA Trading Ltd, was started earlier. But like all developments they need nurturing with the aim of creating a structure which will survive and efficiently deliver support to members - in fact, 'sustainability'.

The year end is a transition. As I step down Massimo Fontolan of Saipem will take over as President and the Vice-President will come from Technip. A task that I did not anticipate, was appointing a new Chief Executive. I am delighted that Chris Charman is now in post. The research required for such an appointment identifies new opportunities which OMC is going to explore, develop and capture in a 5 year plan with Chris. So, in this transition I am personally saying my goodbyes to you and simultaneously welcoming these three key people and wishing them every success.

On behalf of all of you I also want to thank Hugh for his 10 years' IMCA leadership. The association proudly flies its flag whose logo is recognised and respected as never before. A huge transition has been shaped and a body of guidance published to support members in every aspect of marine construction. Hugh has cheerily and diplomatically led this, fielding members' views and demands and finding routes which the whole membership from all their diverse backgrounds can support. Much has been done. There is success, direction and momentum for Chris and an opportunity to take IMCA into its next phase. Again on behalf of all of you, I want to wish Hugh a long and happy retirement.

Sustainability was aptly the theme of this year's annual seminar - another huge success - just finished in Amsterdam. With the healthy status and above appointments in place I am confident that IMCA can sustain its success, continuing to support the delivery of safe and efficient marine construction through its members.

Straight to the Point another successful IMCA annual seminar

The twentieth IMCA annual seminar, on the theme of Marine and Subsea Operations - a culture of sustainability, took place on 28-29 November 2012. A record 440 delegates gathered at the Hotel Okura, Amsterdam, the Netherlands, for a wide range of presentations, workshops, social/ networking events and an exhibition of 20 supplier members. The supporting organisations were the Offshore Support Journal, ADCI, KNVR (the Royal Association of Netherlands Shipowners), OGP, the MTS DP Committee, IADC, NOGEPA, OCIMF and IRO.

Hugh Williams welcomed delegates before handing over to Pascal Grosjean of Technip, Chairman of IMCA's Europe & Africa Section, who introduced the keynote speakers. IMCA Vice President Massimo Fontolan spoke on how marine contractors were continuing to work hard to deliver what they did in a sustainable way. Jan Peter Balkenende, former Prime Minister of the Netherlands, gave an inspiring keynote address on sustainability as a mainstream issue, a significant business driver and a key performance indicator for successful businesses. Ruud Zoon of GDF Suez, Ronnie Bonnar of Repsol Neuvas Energias and Cato Hordnes of Statoil all gave keynote addresses on sustainability from the client's perspective, including reducing emissions, the growth of the renewables sector, and the use of innovative subsea technology.

The morning plenary session included a well-received presentation on safety and operational practice in the airline industry, an informative presentation on insurance claims handling from the legal perspective, and overcoming technical challenges through the use of 3D visualisation. The seminar then split into three parallel sessions: Diving, Marine and ROV & Survey. A range of presentations was given at all three, followed by technical workshops addressing topics such as bus tie reliability, SIMOPS, stress in the workplace, geographical information systems, noise in diving helmets, and a discussion of the Bibby Topaz incident including lessons learnt. To conclude the first day, six bus loads of delegates enjoyed a relaxing visit to the award-winning restaurant Fifteen.

Day two started with presentations on small crew boats, environmental initiatives and modular vessel design. Again, delegates chose one of three parallel technical sessions on Diving, Marine and ROV & Survey, followed by an afternoon plenary covering recent developments in competence and training, and then another set of workshops. The seminar was concluded by Hugh Williams who thanked all the supporters, speakers, chairmen, attendees and staff involved in the seminar. Jim Sommerville of Fugro, Vice Chairman

of the Europe & Africa Section, took the opportunity to give a vote of thanks to the outgoing IMCA Chief Executive, Hugh Williams, for his tremendous efforts in growing the association over the last ten years. This most successful of IMCA seminars was rounded off with a visit to the Koepelkerk, a 17th century Lutheran Church adjoining the Rennaissance Hotel in downtown Amsterdam, for a drinks reception in a splendid hall beneath its famous dome, inspired by the Pantheon in Rome.

A CD of all presentations and summaries is being prepared and will be sent to all members and delegates in the next couple of weeks. NH



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around IMCA



GOODBYE TO HUGH

As previously announced, Hugh Williams, IMCA Chief Executive is retiring at the end of the year. Hugh joined IMCA back in April 2002 – giving him over 10 years at the helm. While providing the association with effective and diplomatic leadership, he has also very ably overseen and been instrumental to large changes to the association and its work. During Hugh's tenure IMCA has widened its global spread – with Hugh being actively involved in setting up both the Deepwater Americas section (now called the Central & North America section) and also IMCA's section in South America. In addition, IMCA's membership has risen from 150 when Hugh joined to the present world-wide membership of nearly 900! Hugh, in his enthusiastic and energetic approach, has also built a strong secretariat to help support IMCA's growth both in membership and in its provision of internationally accepted and respected technical guidance – achievements of which Hugh should be suitably proud. Hugh will leave IMCA at the end of December this year but his achievements will live on, and I am sure that members will wish to join the secretariat in wishing Hugh a long and well deserved retirement. *IB*

WELCOME TO CHRIS

Hugh writes... This newsletter should be reaching you as your new IMCA Chief Executive, Chris Charman, is just settling in. I will be providing a handover until Christmas and endeavouring to introduce Chris to you in person, through the newsletter and by email. I know how much he is looking forward to meeting you and working with you, as well as looking forward to the role itself. Chris comes with a great background in risk management and loss prevention – these concepts underlie so much of what IMCA stands for and what our publications promote. I'm sure Chris will provide you with a further, more detailed introduction in the next newsletter.

I have been privileged to be part of the IMCA journey for the last 10 years. It has been an incredibly enjoyable and technically challenging role with no two days the same. It's also been uplifting to see members giving their time and joining together through the association to deliver benefits to everyone across the industry. Marine construction continues to lead in delivering safe and efficient projects. There's always more to do but the progress is firmly on record for all to see. I will miss the daily interaction with all of you but in its own way I'm very much looking forward to the change, and the opportunity to observe our world from one step removed. HW





FAREWELL TO ANDY

The IMCA secretariat said goodbye to Andy Butler in October 2012. Andy joined IMCA in 2008 as Document Production Co-ordinator where his main focus was this quarterly newsletter. Andy was instrumental in the redesign of

Making Waves which gave it a modernised and fresher look. We wish Andy all the best for the future.



Andy's replacement, Chris Freer, joined the IMCA secretariat after returning from travelling and living in Asia and Australia for a year. Chris will now be in charge of putting together *Making Waves*, and designing all marketing and events material as well as many of IMCA's documents and publications. *KG*

MLC WORKSHOPS

The ILO Maritime Labour Convention (MLC, 2006) will impact all companies operating ships or employing onboard personnel. IMCA has been holding workshops and briefings for members on the practical problems for the offshore sector – most recently in Amsterdam in November, where over 60 people debated the MLC definition of 'seafarer'!

For further MLC information see IMCA SEL 03/12 or contact Emily.Comyn@imca-int.com

THE SKY'S THE LIMIT



On 14 November, Michelle Salway, Publications Sales Co-ordinator at IMCA, successfully completed a tandem skydive from a height of 12,000 ft for Cancer Research UK. With the help of 'wonderful family, friends, colleagues and IMCA' she raised over £1,000.

core activities

SAFETY FLASHES

The IMCA safety flash system for incident reporting and analysis helps share vital safety information. Be a part of the process of helping IMCA members around the world identify potential hazards by sharing lessons learnt, and thus avoid needless repetition of incidents. Any member who has material to contribute can send it to incidentreports@imca-int.com.

IMCA aims for all safety flashes to be succinct, specific, factually correct and written in clear language.

A useful safety flash should provide sufficient detail to the right audience, communicating effectively precautions and necessary actions, without releasing detailed information about the persons or organisations involved.



Further information on incident reporting, including reporting DP and lifting incidents as well as safety flashes, can be found in the factsheet Avoiding incidents: Member reporting, safety flashes and analysis, available from www.imca-int.com NH



IMCA's twin parents (AODC and DPVOA) were strongly linked with marine crew and divers, respectively, both of whom use and know the benefits of logbooks. Therefore, it is no surprise that this area has been developed in IMCA's delivery. We now offer 15 logbooks. The logbooks cover job titles in several areas: diving roles (diver, supervisor, inspector, technician, life support), and roles for DP officer, survey, ROV, vessel manager, design engineer, auditor, safety adviser, crane driver etc. There is a logbook for cranes, as well as one for any individual's general competence and training records. The logbooks follow a common format, meaning they can often be used or adapted to other job titles. The owner is identified, qualifications, training, competence and experience are recorded chronologically and verified.

This achieves four things:

- It creates a work and experience record which is verified and is much more than a CV;
- It promotes competence, thereby improving safety and delivery in the work place;
- It supports personnel appraisal and career progression;
- It links IMCA directly to the individual employees. IMCA's delivery is mostly aimed at the employer and management teams, but the logbooks extend way beyond that.

The books are hugely popular. We sell about 15,000 books a year. If it takes about a year, on average, to fill a book, then 15,000 employees in IMCA's area of the offshore industry are on a journey with us. Does that include you?

Logbooks can be ordered from publications@imca-int.com HW

DUBAI COMPETENCE WORKSHOP

The Middle East & India section met on 25 September, combining the meeting with a competence workshop. Around 60 delegates attended the workshop which aimed to support companies in the development and implementation of technical competency systems within their organisations.

Presentations and discussion sessions focused on systems and structures which needed to be developed to operate successful schemes, with case studies from leading members across the section as to how they had designed their own systems. Oil producers were represented by Maersk Oil offering an overview of their expectations of what contractors should have in place. NE





The SEL Core Committee has been working on guidance on safety in shipyards. This guidance is for vessel owners and/ or operators and is aimed primarily at shipyard visits, vessel dry docking, or maintenance periods alongside in a repair facility. Members' vessels can visit repair yards anywhere in the world and the document is not restricted by any geographical boundaries or country-specific regulations. Several useful technical appendices are provided, and the document adopts a staged or project-based approach to shipyard operations, moving through the docking from pre-qualification and tendering through to implementation and successful project close-out. The document will become available from IMCA early in 2013. NH

core activities



Two further pocket cards are being prepared for publication as *Making Waves* goes to press. IMCA's 22nd pocket safety card will cover electrical hazards, addressing the main hazards, how to assess the risks and how to reduce the risk of electrical shock. The 23rd card covers noise, and has some handy pointers for assessing if there is too much noise in your workplace, and how to reduce exposure to noise.

We are continuing the development of new pocket cards, and two more cards are in the pipeline. One will cover NORM (naturally occurring radioactive material) and the other will form a handy pocket guide to common occupational health hazards. NH

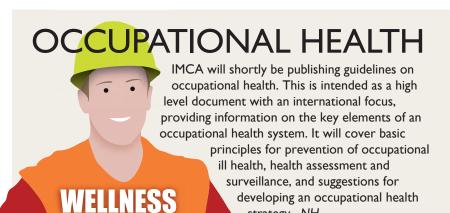
SECURITY TASK FORCE

IMCA's Security Task Force will be holding a one day workshop on Tuesday II December 2012 from 10:30 until 15:30 at the IMCA office in London. This workshop is for the workgroup to discuss the International Convention on Standards of Training, Certification & Watchkeeping for Seafarers (STCW) requirements for security training for all seafarers and seafarers with designated security duties, and to identify the possible impacts this additional training may have on vessels' crew and contractors.

Further discussion at the workshop will include the production of a new pocket travel security card. This pocket card may be a new addition or an update of the current personal security travel card which is available to members at: https://members.imca-int.com/documents/core/sel/safetypromo/IMCASPC13.pdf

Revision of the following IMCA guidance documents will be discussed at the workshop:

- ◆ Review and revision of IMCA SEL 018 Threat Risk Assessment Procedure
- ◆ IMCA SEL 014 Guidance on Travel Security
- The proposed new document Emergency Response Security Guidance MF



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core activities

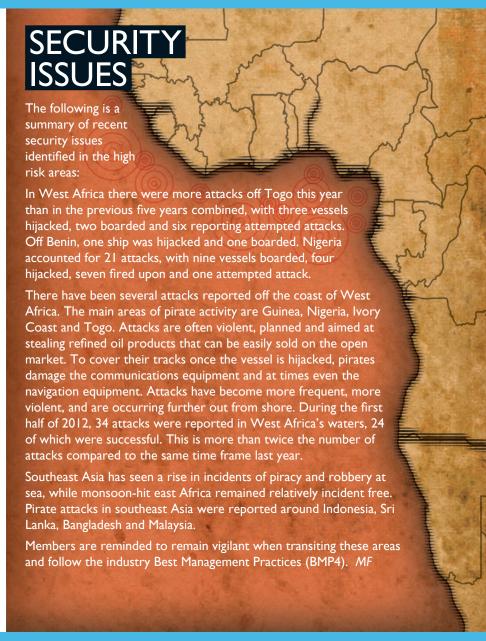
IMCA PRESENTATIONS

The annual Dynamic Positioning conference, organised by the DP Committee of the Marine Technology Society, was held in Houston, Texas on 9 and 10 October 2012.

lan Giddings presented a paper entitled "Learning the Lessons, Reporting DP Incidents". In this presentation he outlined the IMCA DP incident reporting scheme, included analysis of the incidents and the preparation of the annual report, identified possible improvements and called for further suggestions in this area.

Also noteworthy was the recipient of the Dynamic Positioning Committee's Distinguished Achievement award in 2012, Steven Cargill of GL Noble Denton, who will be well known to members as a contributor to many IMCA documents over the years. IG

Peter Sieniewicz presented a paper at the 5th Annual Canadian Underwater Conference, held in St John's, Newfoundland on IMCA's work on arctic diving. Canada is currently expanding the Sable Island and the Grand Banks oil fields together with further planned developments in the Davis Straits off the North Labrador Coast, as well as at Baffin Island and Greenland. These areas are well known for extreme weather and arctic ice. This expansion, together with a number of proposed developments in other extreme cold weather regions, has been the trigger for the development of IMCA's guidance for diving in arctic regions (see page 9). PS





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regional news

EUROPE & AFRICA

The UK Health & Safety Executive (HSE) is intending to undertake small revisions to its suite of Approved Codes of Practice (ACoPs), which includes the five diving ACoPs. HSE will be consulting on detailed revised texts in due course.

E&A section met on 27 November at the Okura Hotel in Amsterdam on the day before the annual seminar. There were 3 interesting and informative presentations from regulators the UK HSE, the Norwegian PSA and the Danish DMA.

CENTRAL & NORTH AMERICA

The last CNA section meeting took place on 27 September 2012 in Houston, with around 30 members and guests, including representatives from US industry organisations and the US

> of personnel shortages in the region and the possible implications of the ILO Maritime Labour Convention (MLC, 2006). There were also meetings of the regional SEL, Diving and ROV sub-groups.

Coast Guard. The meeting considered the issue

SOUTH AMERICA

The South America section met on 19 September during Rio Oil & Gas. Alongside the usual IMCA business, a series of presentations on the skills shortage was given. These were supplemented by a presentation by Hugh Williams on the IMCA materials (publications and website) that support members for promoting careers, supporting training and competence and aiding career appraisal and progression. The three speakers showed

that significant efforts were already being focused by companies in the region on this issue of skills shortage. It was agreed that more could be done collectively and it was agreed to form a small group to investigate

IMCA will be presenting at DP Brasil, the Brazilian dynamic positioning conference, in Rio de Janeiro on 24 and 25 April 2013. Further details can be found at http://www.dpbrasil.com.

ASIA-PACIFIC

The Asia-Pacific section meeting was held in Perth, Australia in early September with over 90 members and guests in attendance. As well as the usual update on IMCA activities, the meeting included a general discussion on personnel challenges with members identifying their concerns on this issue. The afternoon session was set aside for a workshop on the impending Maritime Labour Convention where the implications for contractors and some of the main issues associated with it was discussed in detail.

On the previous day IMCA held a separate meeting with the oil and gas regulator - the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA). This discussion forum between representatives from NOPSEMA and IMCA and its members was held to discuss general issues including the safety case reviews, fees, lifeboat issues etc. At the meeting it was agreed that IMCA and NOPSEMA should aim to set up regular meetings to discuss topics of interest.

MIDDLE EAST & INDIA

The most recent meeting was held at the Jebel Ali Golf Resort in Dubai on 25 September. Around 60 members and guests attended the section meeting and competence workshop. The meeting included a wide ranging discussion of issues including the list of doctors approved to examine divers and local skills shortages.





ARCTIC DIVING

Oil exploration and development is beginning to expand into the harsher regions of the Arctic. As this expansion continues, the diving industry is having to rise to face the operational challenges that oil field construction and maintenance in this climate present; challenges that it has never encountered before. In view of this IMCA was asked by the industry to begin to develop specific guidance to support diving operations in this harsh environment.

IMCA recently held a workshop in Alaska to consider guidance. The following issues were identified:

- You can't take anything for granted in extreme cold!
- There is an increased risk to life by virtue of the remoteness;
- Medical support/emergency evacuation can become more difficult due to the location, extremes of weather and ice;
- There are both psychological and physical issues which become magnified when operating in these extremes;
- The reliability of equipment suffers both topside and subsea;
- Traditional material properties like steel and fluids change as a result of the extremes in temperature;
- Planning must be meticulous: logistics of obtaining equipment and personnel can be extremely difficult.

Following discussion at the workshop, IMCA will continue to develop guidance to help provide solutions to the problems created by operating in this unique, difficult and challenging environment. IMCA aims to finalise this guidance in 2013. PS

DIVING STATISTICS

In the past IMCA has published annual diving personnel statistics for the North Sea area. Although only a snapshot, the figures have been indicative when looking at trends. In 2009 the statistics were extended to cover all areas. After three years taking the world-wide approach it is now possible to see the changes over time. Information received indicated that over 3,600 diving personnel were employed offshore world-wide by IMCA members during 2011. Globally, between 2010 and 2011, there has been a significant increase in saturation diving operations, whereas air diving has declined over the same period. Since 2009 the number of all personnel involved in diving operations has increased, with two notable exceptions: the number of air divers and "other support personnel" have both fallen. BM

IMCA HES DOCUMENT

A meeting of the IMCA workgroup on hyperbaric evacuation systems (HES) took place in October 2012 and final editing of the draft document is now underway. The document is a substantial piece of work and should make a significant contribution in helping members to improve the evacuation arrangements available to saturation divers world-wide.

IMCA gave a presentation on the development of the document to the International Association of Oil and Gas Producers (OGP) Diving Industry Workgroup in Anchorage, Alaska in July 2012.

The IMCA HES document will be supported by two additional IMCA guidance documents. One will be a DESIGN document dealing with the configuration, examination, testing and certification of the hardware elements found in hyperbaric evacuation systems. The other document will contain interface recommendations for hyperbaric rescue units. *BM*





marine

CMID UPDATE

IMCA has now withdrawn the electronic PDF form version of IMCA M 149 - Common Marine Inspection Document due to the various issues encountered with its format. An electronic version will soon be available from the eCMID database. The eCMID software, which can be downloaded by users registered on the eCMID database, can now be used for vessels which have not yet been added to the database. Inspectors can now create an inspection, complete the sections and then lock the completed report, which produces a secure PDF, which can then be passed on to the client or operator directly. However, it should be noted that any inspections created this way cannot be uploaded to the database. The process for completing an eCMID for vessels already on the database remains unchanged.

CMID ISSUE 9

Issue 9 of the CMID should be available for use from January 2013. This includes some changes as suggested by attendees of the eCMID workshops and direct feedback from CMID users.

IMCA M 189

In May 2012, a revised version of IMCA M 189 - Marine Inspection for Small Workboats was published. An electronic version of this document is currently being tested and will soon be available for use as part of the eCMID database www.imcacmid.com where small workboat inspections will soon be able to be undertaken using the eCMID software.

NEWSLETTER

The quarterly electronic newsletter details the current status of the CMID and eCMID database. It is sent to all users of the CMID database and IMCA marine contacts and is also available for download from www.imca-int.com/cmidupdate. If you would like to receive a copy by email, please contact Gordon.kelly@imca-int.com for further details.

Gordon.Kelly@imca-int.com

CMID STEERING COMMITTEE

IMCA is looking for more members to actively take part in the CMID Steering Committee to retain the document's relevance in the industry and take it forward into the future. If you are employed by an IMCA member and wish to take part, please contact Mark.Ford@imca-int.com for further information. *GK*



ROPE FORUM

The next rope workshop is to be held on 29 January 2013 at the Radisson Blu Hotel in Amsterdam airport. The topic for this workshop is the Non-Destructive Testing (NDT) of offshore ropes, with an emphasis on the higher value ropes (e.g. large diameter (>100mm) subsea construction ropes with lengths in excess of 2000m). The programme, which includes the registration form, will be issued in due course. Please contact the events team at events@imca-int.com with any queries. *MF*





marine

NEW GARBAGE RULES

Members are reminded that amendments to the IMO rules on ships' garbage (MARPOL Annex V) will take effect on I January 2013. The rules have been updated, but there has also been a change in emphasis; instead of stating which types of garbage may not be discharged, the rules now specify which types of garbage may be permitted for discharge.

ENCLOSED SPACE ENTRY & RESCUE DRILLS

IMO has finalised draft amendments to SOLAS to mandate enclosed space entry and rescue drills. Crew members with enclosed space entry or rescue responsibilities will be required to participate in an appropriate drill at least once every two months. Drills should include the checking and use of personal protective equipment required for entry; checking and use of communication equipment and procedures; and instructions in first aid and resuscitation techniques. The new rule will be signed off later this year.

VERIFYING CONTAINER WEIGHTS

Work is underway to strengthen requirements for the mandatory verification of gross weight of containers. This is in response to concerns from the container lines about the dangers of mis-declared weights, but IMCA will be following the discussions, to ensure any changes are also practicable for containers being used in the offshore industry.

IMO REVIEW

As part of his first year in office, the new IMO Secretary-General has initiated a review and reform process, to help ensure the organisation is fit for the future. This will include looking into re-structuring the technical sub-committees to improve efficiency and take account of the increased focus on environmental issues.

For more details on IMO issues, please contact Emily.Comyn@ imca-int.com

YNAMIC POSITIONING INCIDENTS

The recently published IMCA M 218 - Dynamic Positioning Station Keeping Incidents – Incidents reported for 2010 (DPSI 21) - contains the analysis of 56 incidents submitted for the year 2010. Many lessons can be learnt from these and members can be alert to the possibility of such incidents occurring on their vessels. For example

Incident #1046 deals with the spreading of a computer virus to the DP system through the transfer of data via a USB device. The manufacturer was unable to guarantee that software on the system would not be susceptible to virus attack, although we are aware that manufacturers are working on this issue. However, it is obvious that in

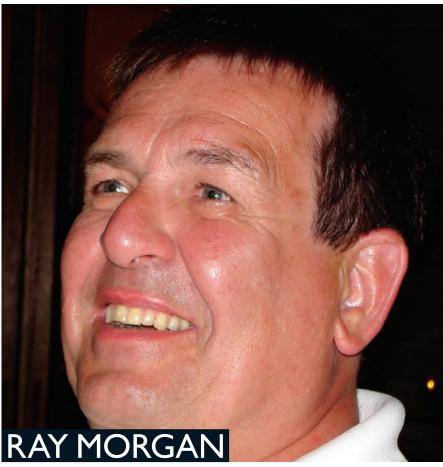
the meantime care needs to be taken when transferring data from one system to another and the use of USB devices possibly avoided.

We are also working towards issuing a quarterly digest of important incidents (to which members' attention should be drawn) and looking at the possibility of another ten year analysis of station keeping incident data, the last one having been done for the years 1994 - 2003. Finally, this year we have presented on DP incident reporting and analysis at a number of seminars and will draw this together with members' input to refine and improve the scheme. IG





offshore survey



The Offshore Survey Division Management Committee has lost one of its members with the death of Ray Morgan, who lost his fight against cancer earlier this year. Ray had a long career in the offshore survey industry from the early 1980s, working for a number of different companies. He was a long standing and well liked member of the IMCA Offshore Survey Committee, and he made a significant contribution to the committee's work programme. Ray was always ready to help anyone with a problem, and helped many people in the survey industry progress their careers. He will be missed. *NH*

SENSOR CALIBRATION

IMCA will be presenting two technical papers on the proposed offshore survey document on calibration and verification of peripheral survey sensors. The first of these will be presented by Gordon Johnston at the annual Seabed Mapping and Inspection technical conference in February 2013 in Geilo, Norway. The second will be presented by Nick Hough at the Offshore Survey technical conference in April 2013 at the National Oceanography Centre in Southampton, UK. This conference runs in parallel with the bi-annual Ocean Business trade show. *NH*

SURVEY PERSONNEL

For the second year, IMCA Offshore Survey Division contractor members have contributed statistics on personnel numbers. Whilst these statistics can only ever form a snapshot, it is hoped that they will become a useful indication of trends and other factors. The aim of the exercise is to find reliable information on the overall numbers and approximate ratio of freelance and company personnel in different survey roles and, in the future, to be able to assess how this changes year on year. Further information on this will be published as an Offshore Survey information note shortly. NH





remote systems & rov

UMBILICAL RE-TERMINATION

The ROV Committee has discussed possible IMCA guidelines on ROV umbilical re-termination. The proposal is to develop guidance on the various important technical issues involved in safe and effective re-termination, including electrical, mechanical, and fibre-optics. This will be a high-level guidance rather

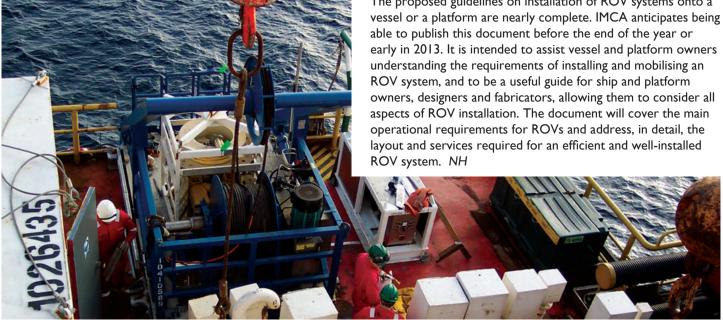
than procedures, and will be developed from members' own documentation on the subject. Members wishing to assist with this work are welcome to submit retermination procedures and work instructions to the secretariat for consideration and collation into the document. Please contact Nick.Hough@imca-int.com

TETHER TEMPLATE

The ROV Committee has in the past identified failures and problems with ROV umbilicals and tethers as something which needs addressing. A report form has been developed, which captures many of the most common failures and problem issues for ROV tethers and umbilicals. This form will be available for use by any member after its review by the ROV Committee.

INSTALLATION GUIDELINES

The proposed guidelines on installation of ROV systems onto a able to publish this document before the end of the year or understanding the requirements of installing and mobilising an ROV system, and to be a useful guide for ship and platform owners, designers and fabricators, allowing them to consider all aspects of ROV installation. The document will cover the main operational requirements for ROVs and address, in detail, the layout and services required for an efficient and well-installed ROV system. NH







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SPOTLIGHT **ONPASCAL GROSJEAN**

Pascal Grosjean is the Deputy VP Marine New Builds for the Technip Subsea Division and serves as Chairman of IMCA's Europe & Africa Section. In this article he discusses his 'day job' and provides a personal insight into the work his committee is currently undertaking on behalf of members in his region.

Please tell us about your company and what it does

Technip is a world leader project management, engineering and construction for the energy industry.

From the deepest subsea oil & gas developments to the largest and most complex offshore and onshore infrastructures, our 32,000 people are constantly offering the best solutions and most innovative technologies to meet the world's energy challenges.

Present in 48 countries, Technip has state-of-theart industrial assets on all continents and operates a fleet of specialised vessels for pipeline installation and subsea construction.

Our industry is buoyant but we face various challenges

What is your current job?

Deputy Vice President Marine New Builds.

We are responsible for delivering appropriate assets to Technip's Business Units, within agreed budget and schedule. This includes construction, pipelay and diving support vessels, and pipelay equipment.

This exciting workscope covers all phases, from concept, design FEED, / contractual set up, definition of rates, project management and site supervision, until delivery to our internal clients.

With five vessels construction, our involvement varies from technical support to full control.

How did you get to where you are in your career today?

After starting as a Field Engineer within the Marine Operations Division of Bouygues Offshore in 1995, I transferred to the Saibos division in charge of Saipem's South Atlantic deepwater activities.

I joined Technip in 2007 to develop the Operations Department of the West Africa and India Business Unit based in Paris.

My career has mainly focused on managing operations and logistics for large, complex deepwater projects challenging locations.

In 2011 I moved to Aberdeen, leading to the creation of the Marine New Builds Business Unit and my current role.

I became IMCA Chairman for the Europe and Africa (E&A) section in November 2011.

What do you see as the key areas affecting the industry at the moment?

We are on a permanent quest for performance, quality and safety, based on the right balance between man and technology.

Balancing the technical complexity of assets with the right level of people skills is



a constant challenge. This is especially true for those involved in the specification and delivery of next generation assets.

How can these issues be taken forward?

As key industry players, we are empowered to shoulder the responsibility to raise standards, from large businesses to the smaller subcontractors.

It is imperative for the complex future assets in our industry that we involve end-users at the specification stage. This will ensure the appropriate development and use of fit-forpurpose technology, for safe and efficient operations.

We must adapt our approach and rejuvenate the **E&A** section

How do you think IMCA makes a difference?

Industry-wide adoption of IMCA guidelines, competence portfolio and sharing of lessons learnt are the foundations of a constantly improving quality and a safer approach to our activities. There is still more we can do on this.

We are on a permanent quest for performance, quality and safety

IMCA is the forum where user feedback is collated and made available to the industry. Members must be encouraged to use this forum to ensure that the assets of the future are fit for our challenging environment.

How do you see the future?

Our industry is buoyant but we face various challenges, ranging from ultra deepwater to the ageing workforce.

Low attendance at E&A meetings concerns me, as the opportunity for feedback is being lost. This may be due to all the activity and good work performed in divisional and core committees and workgroups, however section meetings can bring significant value.

We must adapt our approach and rejuvenate the E&A section: get closer to members, encourage greater participation and extend the reach of our organisation, particularly in remote geographic locations.



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Editing, artwork and design: Chris.Freer@imca-int.com Printed by Pyramid Press Distributed by May Courier International and 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.

Welcome to the IMCA Directory

The following pages contain details of IMCA's recent publications, safety flashes and information notes, as well as the members of IMCA's various management committees and a list of current members.

More details and links to the websites of some of our members can be found at www.imca-int.com/members

The directory is compiled in advance of Making Waves going to print and is correct as at the date stated.

NEW PUBLICATIONS

- Safe lifting (DVD) (IMCA M 215, IMCA SEL 030)
- Thruster integrity management guidance (IMCA M 216)
- Offshore vessel high voltage safety (IMCA M 217, IMCA SEL 031)
- DP incidents reported for 2010 (IMCA M 218)
- Example specification for a DP FMEA for a new DP vessel (IMCA M 219)
- Guidance on operational activity planning (IMCA M 220)
- Contract for the provision of ROV, support vessel and associated work (based on BIMCO Supplytime
- (IMCA R 013 Rev. 1)
 Contract for the provision of ROV, support vessel and associated work (based on BIMCO Supplytime 2005) (IMCÁ R 017)

SAFETY FLASHES

- Safety flash 09/12 covering five incidents: Inadvertent lowering of lifeboat; Near miss: Cement tank hatch failure; LTI hand cut during cutting operations; Near miss: Potential fall when TMS protection gate came loose; MODU mooring line failure
- Safety flash 10/12 covering five incidents: Diver injured Safety flash 10/12 - covering five incidents: Diver injured during subsea lifting operations; Tombarra fall wire fatality: Updated reports; Lifejacket recall - Mullion Compact 150N ISO 12402; Damage to davit-mounted small boats; Hand injury during O2 handling and equipment maintenance Safety flash 11/12 - covering five incidents: LTI: Hand injury; Near miss: Dropped object; LTI: Crush injury – arm trapped by movement of crane block; Near miss: Faulty lifebousy discovered; Able seaman injured by shifting cargo Safety flash 12/12 - covering four incidents: Lifeboat
- Safety flash 12/12 covering four incidents: Lifeboat damaged whilst being lowered on davit; Near miss: Dropped object; High potential near miss: Dropped object; US Coast Guard Alert: problem with certain kinds of personal flotation device

INFORMATION NOTES

COMPETENCE & TRAINING

IMCA C 11/12 Diving on offshore renewable energy projects:

Regulations and guidance 12/12SMSC/DNV SeaSkill training and certification scheme for DP

SAFETY, ENVIRONMENT & LEGISLATION

IMCA SEL 11/12 Diving on offshore renewable energy projects: Regulations and guidance

12/12 Surface swimmers

13/12 Preventing major incidents in offshore operations and marine construction

DIVING DIVISION

IMCA D 03/12 IMO Diving on offshore renewable energy projects: Regulations and guidance 04/12 Surface swimmers

MARINE DIVISION

IMCA M 17/12 ILO MLC, 2006 - Entry into force August 2013 18/12 Diving on offshore renewable energy projects: Regulations and guidance

19/12 Surface swimmers

20/12 The inspection and auditing of manned and unmanned barges 21/12SMSC/DNV SeaSkill training and certification scheme for DP

22/12 Marine Technology Society Guidance Documents

23/12 Voyage Data Recorder Information

OFFSHORE SURVEY DIVISION

IMCA S 06/12 Diving on offshore renewable energy projects: Regulations and guidance

REMOTE SYSTEMS & ROV DIVISION

IMCA R 05/12 World-wide ROV personnel and vehicles - statistics for 2011

06/12 Diving on offshore renewable energy projects: Regulations and guidance

07/12 Serial Communications Formats – Remote Technology

COMMITTEE MEMBER

OVERALL MANAGEMENT COMMITTEE

IMCA President and OMC Chairman IMCA Vice-President:

Committee Chairmen and Vice-Chairmen

C&T:

SEL:

Diving:

Marine

Survey:

ROV:

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Joar Gangenes, Subsea 7 lan Mitchell, Technip Pete Somner, Technip Pete Fougere, Transocean

Will Primavesi, Specialist Subsea Services Walter Steedman, Veripos Jim Mann, Fugro Subsea Services

Richard Benzie, Subsea 7

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Europe & Africa:

Asia-Pacific:

Middle East & India:

South America:

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lim Sommerville, Fugro Christopher Rodricks, SEAMEC Vacancy

Vacancy Roberto Mendes, Saipem

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Richard Benzie, Subsea 7

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John Pirie, Technip Asia-Pacific: Central & North America: Middle East & India: South America:

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Asia-Pacific: Central & North America: Middle East & India: South America:

IMCA WELCOMES THE FOLLOWING NEW MEMBERS

Abyssal SA

Abyssal is a software development company focused on developing operating systems for ROVs using 3D visualisation and augmented reality. We design, develop and implement a wide range of subsea software solutions for several applications in the Oil & Gas industry.

Web: www.abyssal.eu

Tel: +351 22 0120 768

- **AMI American Marine International**
- Arabian Gulf Mechanical Services & Contracting Co. Ltd
- ATOB
- **B&A Engineering Srl**
- **Briggs Marine Contractors Ltd**

Briggs Marine Contractors has over 40 years' experience in supplying services to the marine sector including vessel charter and management, subsea cable repair and maintenance, marine civil engineering, operation and maintenance of aids to navigation and salvage and wreck removal.

Web: www.briggsmarine.com

Tel: +44 1592 872939

- Charles Taylor Adjusting Ltd
- **Divetech Marine Engineering Services LLC**
- Fendercare Marine and Diving Services
- **Gasstocks Limited**

A company based in Nigeria providing deep offshore vessels, barges, fast crew, tugs & accommodation boats. She also facilitates security operations by providing surveillance boats & security personnel for third party operations for major E& P companies.

Tel: +234 84 750101; +234 8025240251

- Global Spectrum Energy Services Limited Healing Chambers of Asia Sdn Bhd HT Training & Services Co Ltd

Hyperbaric Medical Clinic, medic & paramedic training centre for commercial divers.

Email: info@httraining.us Tel:+66 84 85 00 890

I-Tech

IV Offshore

IV Offshore is a specialist employment agency focused on the global offshore and subsea employment sectors. We work around the clock to provide ROV, survey & inspection, and marine & diving personnel. Contact IV Offshore today here: info@ivoffshore.co.uk

Web: http://www.ivoffshore.co.uk

Tel: +44 (0) 1473 283485

KT Submarine Co Ltd

A company based in Korea with modern 3M plough, ROVs and cable ship (SEGERO), multipurpose DP vessel (MIRAERO). Our staff and crew constantly strive and innovate to be best for the demanding customer's needs.

Web: www.ktsubmarine.co.kr

Tel: +82 51 709 3371

Neptune Optic Marine Services International Limited

An established leader in submarine telecommunications industry in Asia-Pacific region providing integrated solutions through project management and consultancy for fibre optic and power cable including shore-end submarine cable installation. Our scope includes permit acquisition, marine agency and logistics consultancy.

Web: www.oms.com.my

Tel: +603 5518 3888

ROVOP Limited

ROVOP is an independent operator of subsea remotely operated vehicles (ROVs) for the offshore oil & gas and wind farm industries. ROVOP owns a fleet of modern and latest technology equipment, with a team of highly experienced professionals.

Web: www.rovop.com

Tel.: +44 (0) 1224 472565

- Strides Energy & Maritime Limited
- **TETRA** Technologies Inc
- **UTEC Survey JLT**
- VerdErg Connectors Ltd
 Waverider Services Limited
- Zone Offshore Free Zone

Allseas Group SA

Heerema Marine Contractors Helix Energy Solutions Group, Inc. McDermott International Inc.

Saipem Subsea 7 Technip

AALEA srl

Abyss International Benthic Exploration

AĆSM

Adams Offshore WLL

Adsun Offshore Diving Contractors Pvt Ltd Advanced Energy Systems (ADES) Advanced Offshore Contractors Pvt Ltd

Ajang Shipping Sdn Bhd Aker Oilfield Services Alam Subsea Pte Ltd

All-Sea Deepwater Solutions Limited Alliance Seaworks Sdn Bhd

Allied Marine & Equipment Sdn Bhd AlMansoori Production Services LLC AMI - American Marine International

Andrews Survey Aqua Diving Services Arab Tanker Services

Arabian Gulf Mechanical Services & Contracting Co. Ltd Archirodon Construction (Overseas) Co SA

Arctia Shipping Ltd Arena Sub srl Argus Remote Systems AS Asian Geos Sdn Bhd Assodivers Ltd

ATCO Ports Management & Marine Services

Atlantic Towing Ltd Atwood Oceanics Pacific Ltd Awaritse Nigeria Ltd BEKK Solutions Ltd Benthic Geotech Pty Ltd BGP

Bibby Offshore

Bibby Offshore Singapore Pte Ltd Bibby Remote Intervention Ltd

BIDCO Ltd B| Services Co Middle East Ltd Bluefone Marine

Bluestream Offshore BV

Bluewater Energy Services BV

Boskalis Offshore

Boskalis Offshore Subsea Services t/a SMIT Subsea Australia Pty Ltd

Bourbon

Briggs Marine Contractors Ltd Britoil Offshore Services Pte Ltd

Brodospas dd Bumi Armada Berhad C&C Technologies C&C Technologies Inc.

C&I Leasing plc C-Innovation LLC

Cal Dive International Inc. Cal Dive International Pte Ltd

Cal Dive International Pte Ltd - Middle East

Canship Ugland Ltd

Cape Diving
Caspian Sea Oil Fleet (CSOF) CCCC International Shipping Corp

CDS Subsea Pte Ltd Celtic Africa Ltd CH Offshore Ltd CNS International srl

Companhia Brasileira de Offshore - CBO Consolidated Contractors Company

(Underwater Engineering) SAL Copetech-SM

Coral Alliance Sdn Bhd COSL Drilling Europe AS CS Offshore DMCCO CSI Offshore Pte Ltd CUEL Ltd

Dalgidj Private Company
Damas Oil & Marine Services Ltd

DCN Diving BV DCN Global LLC

Deep Sea Supply Management (Singapore) Pte Ltd Deep Ocean Group (Asia Pacific)

DeepOcean Group
(DeepOcean -CTC Marine-Trico Supply)

Diamond Offshore Drilling Inc Divetech Marine Engineering Services LLC (one-year temporary membership)

Dockwise

DOF Management AS

DOF Subsea (Australia & Asia Pacific) DOF Subsea Brasil Serviços Ltda DOF Subsea Norway AS DOF Subsea UK Ltd

DOF Subsea USA Inc DOF UK Ltd

Dolphin Drilling Ltd
Dolphin Offshore Enterprises (India) Ltd
Drexel Oilfield Equipment

Dulam International Ltd

Dunnimaa Engineers & Divers Enterprises Pvt Ltd

EDT Marine Construction Ltd EDT Shipmanagement Ltd EGS (Asia) Ltd

Eidesvik ÁS EMAS Offshore Pte Ltd EMAS-AMC AS **EMAS-AMC Inc** EMAS-AMC Pte Ltd

Emergency Risk Management Asia-Pacific Pty Ltd

(one-year temporary membership) ÈNSĆO plc

Epic Divers & Marine ER Offshore GmbH & Cie KG ESNAAD-ADNOC Group Fairmount Marine by Far Eastern Shipping Company Farstad Shipping ASA

Fendercare Marine and Diving Services Film-Ocean Limited Floatel International AB Forland Shipping AS

Fugro Brasil Serviços Submarinos e Levantamentos Ltda Fugro Marine Services by Fugro RUE AS

Fugro SAE Fugro Subsea Services Ltd Fugro Survey (India) Pvt Ltd Fugro Survey (Middle East) Ltd

Fugro Survey Ltd Fugro Survey Pte Ltd Fugro-TSM Pty Ltd

Gasstocks Limited GC Rieber Shipping AS GEMS Group Limited

GeoSea NV (Member of the DEME Group)

GEOSHIPS Limited Global Marine Services Global Marine Systems Ltd

Global Spectrum Energy Services Limited GO Offshore

GOGAS Gulf Oil & Gas LLC Golden Energy Offshore Management AS Great Offshore Ltd

Greatship (India) Ltd Greatship Subsea Solutions (Australia & Asia Pacific)

Grup Servicii Petroliere SA

Gulf Dredging & General Contracting Co (SAK) Gulf Marine Services

Gulf Offshore (North Sea) Ltd Gulf Offshore Logistics LLC HAL Offshore Ltd Hallin Marine Hallin Marine UK Ltd

Halul Offshore Services Company Harbor Star Shipping Services Inc Harms Bergung, Transport Und Heavylift GmbH

& Co KG

Havila Shipping ASA HEISCO - Heavy Engineering Industries & Shipbuilding KSC

HGO InfraSea Solutions GmbH & Co KG Horizon Survey Company (FZC)

Hornbeck Offshore Operators LLC Hull Support Services Ltd Huta Marine Works Ltd HydroDive Nigeria Ltd

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i-Tech IDMC Overseas FZE

IDMC srl - Impresub Diving & Marine Contractor IKM Subsea AS

IMI Del Perú SAC Impresub International LLC Inspectahire Instrument Co Ltd

Integrated Subsea Engineering & Services LLC Integrated Subsea Services (Australia) Pty Ltd Integrated Subsea Services Asia Pacific Pte Ltd

Integrated Subsea Services Ltd

International Grout Operations Private Limited International Marine Works - Alexandria International Naval Works - Abu Dhabi

Interoil Angola Intership Ltd Intertug SA **IOTA-Survey**

Iremis iROV Underwater Services

IRSHAD

Island Offshore Management AS

iSurvey Group AS Jack-Up Barge BV James Fisher & Sons plc Jan De Nul nv Jaya Holdings Jifmar Offshore Services Jumbo Offshore VoF

KD Marine Ltd

Khalifa A Algosaibi Diving & Marine Services Knutsen OAS Shipping AS Kreuz Subsea Marine Pte Ltd Kreuz Subsea Pte Ltd KT Submarine Co Ltd L&T Sapura Shipping Pvt Ltd Lamnalco Group Lamnalco West Africa Lauritzen Offshore Services AS

LD Travocean

Leighton Contractors Pty Ltd Leighton Offshore Pte Ltd

LLP FSDS Louisiana Overseas Inc Maersk Drilling Maersk Supply Service Manifest Fortune Sdn Bhd Maridive & Oil Services Maridive & Oil Services (SAE) Maridive Offshore Projects

Marine Consulting Marine Engineering Diving Services (one-year temporary membership)

Marine Platforms Ltd Maritime & Underwater Security Consultants (MUSC) Maritime Asset Security and Training (MAST) Ltd Master Tech Diving Services
MENAS - Middle East Navigation Aids Service Meriaura Ltd Mermaid Marine Australia Ltd Mermaid Offshore Services Ltd Miclyn Express Offshore Pte Ltd Modus Seabed Intervention Ltd Mohn Drilling AS Mutawa Marine Works LLC N-Sea Namibia Subtech Diving and Marine (Pty) Ltd National Marine Dredging Co National Petroleum Construction Company (NPCC) (one-year temporary membership) Navtec Marine Services SA NDE Offshore AB Neptune Neptune Survey Expedition ehf Newcruz Offshore Marine Pte Ltd Nexans Norway AS - Energy Division Nippon Steel & Sumikin Engineering Co Ltd NIWA Vessel Management Ltd Noble Drilling Services Inc NoelDive Pte Ltd NorSkan Offshore Ltda Northern Marine Management Ltd Ocean Installer Ocean Technologies Geomatics Sdn Bhd Ocean Works Asia Inc. Oceaneering International (UK) Oceaneering International Asia Pacific Oceaneering International Inc.
Oceaneering Marine Production Systems do Brasil
OceanWorks International Inc Octomar Odebrecht Oil & Gas Odfjell Drilling Offshore Geo-Surveys Sdn Bhd
Offshore Installation Services (OIS) Ltd
Offshore Manpower SA Offshore Marine Management Ltd Offshore Marine Services Pty Ltd Offshore Subsea Services
Offshore Subsea Works Sdn Bhd
Offshore Technology Solutions Ltd
Olympic Shipping AS Optic Marine Services International Limited Orogenic GeoExpro Sdn Bhd
OSM Offshore AS
Overseas AST Co LLC
P&O Maritime Services Ltd P&O Maritime Services Pty Ltd Pacific Drilling Services Inc Pacific Richfield Marine Pte Ltd PBJV Group Sdn Bhd Pearl River Offshore Limited Pelican Offshore Services Pte Ltd Petroleum Marine Services Company PetroUsaha Engineering Services Sdn Bhd PFCE Ocean Engineering Sdn Bhd Phoenix International
PRONAV Ship Management GmbH & Co KG Prosafe Offshore Ltd PT Advanced Offshore Services PT Bahtera Niaga Internasional PT Ekanuri Indra Pratama PT Jaya Salvage Indonesia one-year temporary membership)
PT Lancar Rejeki Berkat Jaya
PT Offshore Works Indonesia
PT Patra Dinamika PT Prima Mitranata PT Samudera Biru Nusantara PT Wintermar
PTSC Geos & Subsea Services Co Ltd
Queiroz Galvão Óleo e Gás Rana Diving spa Red7Marine Offshore Ltd (one-year temporary membership) Reef Subsea Reef Subsea Reef Subsea Power & Umbilical REM Offshore ASA Rolv Berg Drive AS Romona Inc ROV Resources (M) Sdn Bhd **ROVOP** Limited RRC Robótica Submarina SA RWE OLC GmbH S&O Ship Management Ltd Sahara Petroleum Company SAL Heavy Lift GmbH Sapura Diving Services Sdn Bhd SapuraAcergy Sdn Bhd Sarku Engineering Services Sdn Bhd SAROST SA

SBM Offshore NV SC Shark SRL Scaldis Salvage & Marine Contractors NV Sea Trucks Group - Asia-Pacific Sea Trucks Group - Europe & Africa Sea Trucks Group FZE Seabed AS Seacor Marine (International) Ltd Seacor Offshore Dubai LLC Seadrill Americas Inc Seadrill Management AS Seahorse Services Corporation Sealion Shipping Ltd
SEAMEC - South East Asia Marine Engineering & Construction Searie Sdn Bhd Searov Offshore Seascape Surveys Pte Ltd Seatrans AS Seatrax Singapore Pte Ltd Seaway Heavy Lifting Engineering BV Seaways International LLC Seaworks Ltd Secunda Canada LP Sevan Drilling ASA Shanye Marine Services Co Ltd Shapadu Energy & Engineering Sdn Bhd Siem Offshore AS Siem Offshore Contractors GmbH Simon Møkster Shipping AS Six Construct Ltd Skansi Offshore SMIT SMIT Subsea (Singapore) SMIT Subsea Africa SMIT Subsea Europe SMIT Subsea Middle East LLC SOLL-R Solstad Shipping AS Songa Offshore SE Specialist Subsea Services Ltd Stadt Sjøtransport AS Stanford Marine Stapem Offshore SA Stena Drilling Ltd Steria Drilling Ltd Stork Technical Services (RBG) Limited Strides Energy & Maritime Limited Subsea 7 Singapore Contracting Pte. Ltd Subsea Explore Services (M) Sdn Bhd Subsea Petroleum Services Subsea Robotics Services Pte Ltd Subtech (Pty) Ltd Subtech (1-ty) Ltd Subtech Qatar Diving and Marine Services LLC Supreme Hydro Engineering Pvt Ltd SURF Subsea Inc Swiber Offshore Construction Pte Ltd Swire Pacific Offshore Operations Pte Ltd Target Engineering Construction Co Technip Oceania Pty Ltd Technip USA, Inc. Technocean AS Tecnosub Teekay Norway AS TETRA Technologies Inc Tidewater Marine North Sea Ltd Tideway Offshore Contractors (Member of the DEME Group) Timsah Shipbuilding Company TL Geohydrographics Sdn Bhd Topaz Marine - Azerbaijan Topaz Marine - Azerbaijan Topaz Marine - Kazakhstan Topaz Marine MENA Total Marine Technology Pty Ltd TPSMI Group Ltd (one-year temporary membership) Transocean Transoceanic Cable Ship Company Inc. Trigstation Sdn Bhd Troms Offshore Management AS UMC International plc
UMCInternational plc
Underwater Services Company Ltd
Unicom Management Services (Cyprus) Ltd
Unidive Offshore Pte Ltd Unimar Ltd URS nv UTEC Survey Asia Pte Ltd UTEC Survey Construction Services Ltd UTEC Survey JLT UTEC Survey, Inc. V.Ships Ltd Van Oord Offshore BV Vantage Deepwater Drilling Inc Vector Offshore Ltd Veolia Environmental Services Special Services Visser & Smit Marine Contracting by Vroon Offshore Italia Srl

Vroon Offshore Services BV VTT Maritime AS Wagenborg Offshore BV Waha Maritime Watergate Technical Services Ltd Waverider Services Limited Wilhelmsen Ship Management (Norway) AS Workfox BV Workships Contractors BV Zakher Marine International Inc. Zamil Offshore Services Company ABB AS, Marine Division ABB Ltd Abyssal SA AC Plus Marine Inc. ACE Winches Advanced Marine Pte Ltd Air Liquide America Specialty Gases LLC Air Liquide UK Ltd Air Products Middle East FZE Air Products plc Air Products Singapore Pte Ltd Amron International Diving Supply Inc Analox Sensor Technology Ltd Ansell Protective Solutions Aqua-Air Industries Inc Arab Tanker Services Arabian Industrial Gases Company Ashtead Technology (SEA) Pte Ltd Balmoral Offshore Engineering Bridon Brunvoll AS CAPE Group Pte Ltd Cargotec Norway AS (Offshore) Chambers Oceanics Ltd Chesterfield Special Cylinders Ltd CMC Industries Comanex SAS CSI Offshore Pte Ltd CUFL Ltd. Cygnus Instruments Ltd Deep Down Inc. DeepOcean Group
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Franklin Offshore International Pte Ltd Fugro GRL Fugro-TSM Pty Ltd
GE Energy Power Conversion UK Ltd
Global Gases Australia Pty Ltd Global Gases Group FZCO Global Gases Group Singapore Pte Ltd Global Gases Malaysia Sdn Bhd Global Gases South Africa (Pty) Ltd GMC Ltd Great Offshore Ltd Greatship Subsea Solutions (Australia & Asia Pacific) Guidance Navigation Ltd HATLAPA Marine Equipment Huse Engineering AS Hydrasun IHC Hytech BV Intron Plus IUC Group Inc IUC Technologies LLC IXSEA James Fisher Offshore Limited Jiangsu Zhongtian Technology Co Ltd (ZTT)
Joint-Stock Company Tetis Pro
JW Automarine JVV Automarine
Kenz Figee BV
Kirby Morgan Dive Systems
Kongsberg Maritime AS
Kongsberg Maritime do Brazil SA
Kongsberg Maritime Ltd
KTL Offshore Pte Ltd Kystdesign AS L-3 Communications Lexmar Engineering Pte Ltd Liebherr Sunderland Works Ltd Mako Technologies LLC Marine & Diving Services Ltd MCA Electric Co Ltd

MCS Free Zone
Measurement Devices Ltd

MJR Controls Ltd

Molecular Products Ltd Nautronix Ltd Navis Engineering OY NSW Technology Ltd OCEANOS ISC Oceanscan Ltd Oceanwide Safety at Sea BV Offshore Logistics (Asia Pacific) Pte Ltd Pacific Commercial Diving Supply Pty Ltd Perry Slingsby Systems Inc.
Perry Slingsby Systems Ltd.
Perry Slingsby Systems Ltd.
Petrofac Training Services (PTS)
Pipeline & Piling Services Co Ltd. Pommec TDE BV Proserv Offshore Redaelli Tecna spa Rigmarine FZC Rolls-Royce Marine AS Rolls-Royce Oy Ab Rolv Berg Drive AS Rovsco Asia Pte Ltd Saab Seaeye Ltd Samson Rope Technologies SBM Offshore NV Schilling Robotics (FMC CBV Subsea) Schilling Robotics, Inc.
Sea and Land Technologies Pte Ltd
Sea Software Padages & Technologies Ltd (SSP&T Ltd)
Sea Trucks Group FZE Seaflex Ltd Sealion Shipping Ltd Seanetics Asia Works Pte Ltd Seatools BV Serimax Ltd Siem Offshore AS Singapore Oxygen Air Liquide Pte Ltd Skan-El AS Soil Machine Dynamics Singapore Pte Ltd Solstad Shipping AS Sonardyne Asia Pte Ltd Sonardyne International Ltd Sources Workshop Equipment Co (LLC) SS Subsea Pte Ltd Submarine Manufacturing & Products Ltd SubNet Services Ltd Subsea Vision Ltd Sundan Offshore Pvt Ltd Synergy Diving & Equipment Solutions FZCO TGH AP Pte Ltd Totalmat Indústria e comercio de Equipamentos Hiperbáricos Ltda Trim Systems Pte Ltd Underwater Technology Services (S) Pte Ltd Unique Hydra Unique System (UK) Ltd Unique System FZE Vanguard Offshore Pte Ltd Velocious Pty Ltd VerdErg Connectors Ltd Vroon Offshore Services Ltd Zone Offshore Free Zone Abermed Ltd Acteon Angola Limitada Advanced Marine Pte Ltd AIMS Ltd Air Products Singapore Pte Ltd Alfa Petroleum Services Alliance Marine Services Anglo-Eastern Group Anglo-Eastern Group (Asia-Pacific Region) Applied Research International Pvt. Ltd ATOB Auto Dynamic Positioning Services Ltd B&A Engineering Srl Babcock International Group Marine & Technology Division Baker Marine Solutions Blade Offshore Services Ltd Blue Water Engineering (M) Sdn Bhd BOATLABS AS Braemar Engineering (Wavespec Limited) Braemar Technical Services (Offshore) Pte Ltd Bruce Offshore Ltd BSA Offshore AS C-MAR Group
CAPE Group Pte Ltd Charles Taylor Adjusting Ltd
Consortium Underwater Engineers Ltd

Cosalt

Deep Diving Consultancy Ltd (DDC Ltd)
Deep Down Inc.

Divetechnoservice Ltd
Diving and Offshore Works Consultancy (DOWC)

Detrick Services (UK) Ltd Derrick Services (UK) Pte Ltd

SB Submarine Systems Ltd

DOF UK Ltd **DRC Dive Systems** Dynamic Positioning Tech Sdn Bhd Dynamic Surveys Egyptian Company for Oil Services (ECOS) Emirates Industrial Laboratory ETPM Ltd Explorer Marine SBoSS ApS Fairtex Integrated Services Limited Fearnley Offshore Supply Fender & Spill Response Services First Marine Solutions Ltd Flinders EMA Pte Ltd Franklin Offshore Europe BV Franklin Offshore International Pte Ltd Fugro Subsea Services Ltd GL Noble Denton GL Noble Denton - Asia-Pacific GL Noble Denton - Central & North America GL Noble Denton - Middle East & India GL Noble Denton - South America Global Maritime Global Maritime Singapore GMC Ltd GoAGT Ltd Goutama Weights & Testing Pte Ltd Green Marine Solutions Ltd Greenland Maritime Solutions GW Marine Consultants Pty Ltd Healing Chambers of Asia Sdn Bhd Hill International (UK) Limited Holman Fenwick Willan Houlder Insurance Services Ltd Hydrasun IHC Offshore & Marine BV Imes I td Inchape Shipping Services Inchape Shipping Services Ltd - South America Independent Marine & Engineering Consultants (IMEC) Inter Mar Technology Ltd InterMoor Marine Services Ltd Interocean Marine Services Ltd Italian Maritime Academy Technologies ITIC-Insure JSL International (Trinidad) Ltd KB Associates Pte Ltd KDU Worldwide Technical Services (FZC) Kennedy Marr Ltd Kestrel Maritime Asia Pte Ltd Lexmar Engineering Pte Ltd LMC Aps London Offshore Consultants Ltd M3 Marine Group Pte Ltd Marex Marine Services Ltd Marine Cybernetics Marine Q AS Marine Solutions (Pty) Ltd Maritime Assurance & Consulting Ltd Maritime Management Services Inc MatthewsDanie MCA Electric Co Ltd MCS Free Zone Medea srl MIR Controls Ltd MOS Marine Offshore Services Pte Ltd National Hyperbaric Centre Nautronix Ltd Navigare International Inc. NUI AS ODS-Petrodata Pte Ltd Offshore Commissioning Solutions Offshore Installation Services (OIS) Ltd OK Welding Marine Ltd Orwell Offshore Ltd Overseas Marine International Services PAE Singapore Pte Ltd PEM Offshore Ltd Perry Slingsby Systems Ltd Peterson SBS Den Helder BV Petrofac Marine Services
Petrofac Training Services (PTS) Positioneering Ltd Primo Marine PRO Marine Solutions Pvt Ltd PT Makara Jaya Marine PT Rigspek Perkasa PT Sirius Maritimindo Services QinetiQ Red Penguin Associates Ltd Reel Group Ltd Rolls-Royce Power Engineering plc Romona Inc Scanmudring Schilling Robotics Ltd

Schilling Robotics, Inc.
Seacroft Marine Consultants Ltd

Seanetics Asia Works Pte Ltd

Seas Services

Sebastian AS Sigma Offshore Ltd Skan-El AS Skuld AS Soil Machine Dynamics Ltd Southern Marine Consult AS Sparrows Offshore Services Ltd Specialist Marine Consultants Ltd Spica Marine Inspections Ltd STAT Marine SAS Steel Repair Services STET Maritime Pte Ltd Sub-Tech Systems Ltd SubNet Services Ltd Subsea Vision Ltd. Survey Association Thome Offshore Management Pte Ltd Tristein AS Ulstein Marine Systems (Shanghai) Co Ltd Underwater Technology Services (S) Pte Ltd V.Ships Ltd VerdErg Connectors Ltd Veripos VideoRay LLC Viking SeaTech Vroon Offshore Services Ltd Westcon Power & Automation AS Xing Wei Pte Ltd

Abyss AS Advanced Offshore Training Centre Pvt. Ltd Ålesund University College AMC Search Ltd APAVE MARE Training Center (ex AdriaMare) ASET International Oil & Gas Training Academy Banff & Buchan College
Bergen University College - Diver Education
Bibby Ship Management Group Ltd - Europe & Africa
Bibby Ship Management Group Ltd - Middle East & India **BS** Divers Centre for Marine Simulation Centre Mediterraneen de Plongee Professionnelle (CMPP) CFO - Centro Formazione Offshore Commercial Diving Academy DAN Europe De Moura Shipping Ltda Divers Academy International Divers Institute of Technology Divers University Esporte Aquático Ltda Diving Diseases Research Centre Ecole Nationale Supérieure Maritime Falck Nutec by First Ukrainian Maritime Institute Force Technology Fundação Homem do Mar GL Noble Denton Global Marine Systems Ltd - Subsea Training Holland College - Marine Training Centre HT Training & Services Co Ltd Hydro Oil & Gas Training Hydrolab-HydroCAT Hyperbaric Training Associates
i-UTecH - Institute for Underwater Technology and Human Resources IDESS Maritime Centre (Subic) Inc. Institut National de Plongée Professionnelle (INPP) Interdive Services Ltd
KBA Training Centre Pte Ltd
Kirby Morgan Dive Systems LBJ Maritime Inc Logan's Oil Field Services Ltd Marine Solutions (Pty) Ltd Maritech Group Maritime Institute Willem Barentsz Maritime State University named after GJ. Nevelskoy Maritime Training & Competence Solutions Ltd MOG Industry Training Co Ltd MSTS Asia Sdn Bhd National Hyperbaric Centre National Oceanography Centre Netherlands Diving Centre

North Sea Lifting Ltd NZ School of Commercial Diver Training

Offshore Skills Training Centre (OSTRAC)

Pan Arab E-Navigation DP Training Center

Occupational Training Centre Pte Ltd Offshore Marine Academy Ltd

Perry Slingsby Systems Inc.

Power & Generation Services

Professional Diving Academy

Professional Diving Centre

PT Barron International

PT ISBI

PNI Training Centre AS Polaris Learning Ltd

SEADOG Seahorse Services Corporation - Training Seneca College - Underwater Skills Program Ship Modelling & Simulator Centre Simsea AS Sogn og Fjordane Technical College, Maritime Department Måløy STC-Group STORM Ltd SubNet Services Ltd - Asia-Pacific Survie Mer Formation TGH AP Pte Ltd The Dynamic Positioning Centre Ltd The Faraday Centre Ltd The Ocean Corporation The Underwater Centre (Tasmania) Pty Ltd The Underwater Centre Fort William Ltd The Underwater Centre Fremantle Pty Ltd The Underwater Training Centre - South Australia Underwater Engineering Ltd Videotel Marine International Ltd
WA Maritime Training Centre - Fremantle YAK Diving Academy Ace Diving Services CC Alfa Petroleum Services Anglo-Eastern Group Atlas Services Group Australia Pty Ltd Atlas Services Group Energy Ltd Bibby Ship Management Group Ltd - Europe & Africa

PVD Technical Training and Certification Joint

Satakunta University of Applied Sciences

OSTAR SLU

SBS Intl Ltd

Bibby Ship Management Group Ltd - Middle East & India Compass Personnel Services Inc Connect Energy Services Pte Ltd Dave Oliver Hydrographic Services Ltd De Moura Shipping Ltda Del. Seatek India Pvt. Ltd EF Consult Asia Pte Ltd GOSS Consultants Ltd Hydrosub Ltd Inseacon Services IOS (International Offshore Services) IV Offshore Lerus Ltd Maritech Group MCL Medics Naurex Resources Nautech Services Ltd Nedcon Maritime Oceanscan Ltd Offshore Marine Services UK Ltd OilExec International Oilfield Medics UK Ltd OSM Crew Management Aberdeen Ltd Petrolis Pharos Offshore Group Ltd PR Offshore Services Ltd

Seatechs Limited Sheffield Offshore Services Pte Ltd SubNet Services Ltd SubNet Services Ltd - Asia-Pacific SubServPro Team Trident LLC The Underwater Centre Fremantle Pty Ltd
Total Marine Services UKPS Offshore Underwater Engineering Ltd Verret Marine Services Irish Naval Service

Salvage & Marine Operations IPT

ABS Europe Ltd Abu Dhabi Marine Operating Company (ADMA-OPCO) Agip Kazakhstan North Caspian Operating Co NV AISI - Associazione Imprese Subacquee Italiane Apache North Sea Limited Bahamas Maritime Authority Bapco - The Bahrain Petroleum Company BG Americas and Global LNG - Central & North America BG Americas and Global LNG - South America BG Group

BP America Production Company BP Berau

BHP Billiton

BP Exploration Operating Company Ltd Brunei Shell Petroleum Company Sendirian Berhad Cairn Energy India Pty Ltd

Chevron Shipping Co Chevron Thailand Exploration & Production Ltd
CNR International UK Ltd
ConocoPhillips
ConocoPhillips (UK) Ltd ConocoPhillips China Inc Dana Petroleum Netherlands BV Dana Petroleum plc
Department of Labour (South Africa) Det Norske Veritas Dolphin Energy Ltd DONG E&P AS Equion Energia Limited Esso Australia Pty Ltd ExxonMobil Development Company GDF Suez E&P Nederland by Germanischer Lloyd SE Gulf of Suez Petroleum Company (GUPCO) Health & Safety Authority Husky Energy Instituto Brasileiro de Petróleo, Gás e Biocombustíveis International Association of Oil & Gas Producers (OGP) International Diving Schools Association Kuwait Oil Company Maersk Oil Danish Operations Maersk Oil North Sea Ltd Maersk Oil Qatar AS Marathon Oil Norge AS Murphy Sarawak Oil Co Ltd National Offshore Petroleum Safety & Environmental Management Authority Nautilus Minerals Nederlandse Aardolie Maatschappij BV Newfield Peninsular Malaysia, Inc Nexen Petroleum UK Ltd Noble Energy NOIA - National Ocean Industries Association Offshore Operators Committee (OOC) Oil & Natural Gas Corporation Ltd Perenco UK Ltd Petrobras SA Premier Oil Natuna Sea Premier Oil ONS Ltd PT Pertamina Hulu Energi ONWJ PTT Exploration & Production plc Oatar Petroleum Ras Laffan Industrial City RasGas Company Limited Santos Ltd Sarawak Shell Berhad Saudi Aramco Shell International Exploration & Production by Shell Todd Oil Services Ltd Sonangol Pesquisa & Produção Statoil ASA Suncor Energy Inc. Talisman Energy (UK)
Talisman Malaysia Ltd The Crown Estate TNK Vietnam BV Total Austral SA Total E&P Indonesie Total E&P Nederland BV Total E&P UK Ltd Total Exploration & Production Wintershall Noordzee BV Wintershall Norge ASA

Woodside Energy Ltd

Zakum Development Company (ZADCO)

Chevron Brasil Petroleo Ltda

Chevron Energy Technology Company Subsea



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