

IMO joins 70th UN birthday celebrations

IMO has participated in celebrations marking the 70th anniversary of the United Nations. This includes sending the UN's digital ambassador Elyx, the cartoon character specially developed by renowned French artist Yak, to see IMO's headquarters and work in the field. Elyx's virtual journey around the world in 70 days shed light on the work of the



UN, with UN agencies and other bodies contributing to show Elyx interacting with different areas of their work, and sharing the results via social media. Additionally, around 200 iconic monuments, buildings, museums, bridges and other landmarks in nearly 60 countries around the world were lit up in UN blue.

History in the making

The role of maritime heritage in raising awareness of modern shipping has been a strong theme for IMO Secretary-General Koji Sekimizu in recent years. It was echoed at the annual meeting of the International Congress of Maritime Museums in Hong Kong today (5 November) in a presentation by IMO's Fred Kenney, which also touched on the complementary role modern shipping can play in lending a contemporary relevance to museum collections.

This year, IMO has collaborated with the National Maritime Museum in its host nation, the United Kingdom, by producing three films exploring current aspects of migration by sea, to give a modern perspective to an exhibit examining this phenomenon throughout the ages.

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Maritime security training in Viet Nam: A national workshop on advanced port security drills and exercises is taking place in Hanoi, Viet Nam (3-6 November). Port security officials, managers and officials designated by the national authority to deal with security incidents are getting the opportunity to take part in simulated security exercises in order to test the skills and knowledge gained in theoretical lessons, discussions and group work. The aim is to equip the participants for future planning, conduct and evaluation of security exercises, in order to improve the implementation of IMO maritime security measures such as SOLAS Chapter XI-2 and the International Ship and Port Facility Security Code. Tracy Peverett is representing IMO at the event, which has been organized by IMO in collaboration with the Asia Pacific Economic Community (APEC) Maritime Security Working Group and the Viet Nam Maritime Administration (VINAMARINE).

Islamic Republic of Iran prepares for London Protocol: A three-day national workshop on the London Protocol is concluding today (2-4 November) in Tehran, Islamic Republic of Iran. The



workshop is focussing on raising awareness of the Protocol amongst relevant national agencies and organisations as well as setting out the key elements of implementing and enforcing the Protocol. The Islamic Republic of Iran is finalising its process to accede to the London Protocol.

Dr.Parvin Farshchi, Deputy of Marine Environment, emphasised the importance of the London Protocol to the Islamic Republic of Iran stating that its long coastlines need to be protected from the harmful impacts of land-based wastes dumped at sea. The training workshop was attended by more than 45 high-level officials from various government departments and academia and was facilitated by IMO's Edward Kleverlaan with assistance from a consultant provided by the UK government. The workshop has been jointly organized by IMO, the

Department of Environment (DOE) and the Ports and Maritime Organization (PMO) of the Islamic Republic of Iran.

Ballast systems approval process in focus: IMO's Stefan Micallef has opened the International Forum on Ballast Water Management Technical Cooperation 2015, which is being held in Busan, Republic of Korea (3-4 November). The Forum is focusing on type approval



of ballast water management systems and the ongoing revision of the Guidelines for approval of ballast water management systems (G8). The Forum is being hosted by the Ministry of Oceans and Fisheries, Republic of Korea.

A degree of success for students: The prestigious annual graduation ceremony for students at the World Maritime University (WMU) took place on Sunday (1 November) in Malmö, Sweden, when WMU Chancellor and IMO Secretary-General Koji Sekimizu



conferred postgraduate degrees on the class of 2015. In total, there are 202 graduates in the class of 2015, including the M.Sc programmes in Malmö, and Dalian and Shanghai, China, as well as the distance-learning Postgraduate Diploma graduates. Overall, the 2015 graduates represent over 40 countries. In his graduation message, Mr Sekimizu urged the students to continue to support the ideals and objectives of IMO. The Guest of Honour was Kitack Lim, IMO Secretary-General elect, who is an alumnus of WMU and will become the first Chancellor and first IMO Secretary-General to hold an M.Sc degree from the University. (contd. on page 5)

From the Editor's Desk



Most of us must be aware that a fundamental change is necessary. We are confronted with so many problems, and there must be a different way - perhaps a totally different way - to approach all these problems. – J. Krishnamurti

In this world, unity is achievable only by learning to unite despite differences. Total eradication of differences is impossible. The secret of attaining peace in life is tolerance of disturbance of the peace. – Maulana Wahiduddin Khan

The rapprochement of peoples is only possible when differences of culture and outlook are respected and appreciated rather than feared and condemned, when the common band of human dignity is recognized as the essential bond for a peaceful world. – J. William Fulbright

The "absence of an execution mindset, in a fair manner to public services" among government officials, is the biggest challenge, in getting the reforms bandwagon rolling. Government elected by the people need to realize and understand their priorities. "Our focus and aim to objectives, are to be on execution, and timely implementation and making things happen. Self, " Dr. Chandran Peechulli, General Secretary, Chennai Society for Fast Justice, Regd., is skeptical about the tasks at hand due to the lack of an "execution mindset" within the government in comparison to the alertness and activeness of professionalism, keeping to the times in the private sector, where self spent around five decades. "At the government right now, we don't have enough of an execution mindset. In the private sector, there are targets, milestones, delegation of responsibilities as to who is responsible for what etc. but there isn't enough of that in the government. Performance is not that easy, is the excuse for Government Official's, but nothing is hard if one has a will to perform. Self have around 50 years of private and public sector combination service, and hence know the difference of managing people of varying mindset. In the government, we have to face many unknown, unworthy devils who come and go like passing clouds and therefore have to work with many stake-holders. But if we strive to Plan and make a check-list and perform with a quality benchmark, there are possibilities to keep raising this quality benchmark, through such proper vision with a mission to perform better. We have to build that "actionable WE CAN mindset " and keep performing with the necessities, with consistency.

The need to "Encourage and Entertain CRITICS that are of constructive criticism" for the general well being, towards performance efficiency, by virtue of the improved Policies And Procedures. We need to desist from taking critics seriously but for taking it sportingly to overcome and improve situations.

The comments come at a time when the critics are blaming the government for doing only mega announcements with little action on the ground. Feedback, even though from the PRESS should be proved wrong by "WE ACT TO THE NEED OF THE CHANGING TIMES". External pressures are increasing: companies are increasingly being expected to reform, improve, recycle, and manage their social and environmental impact more effectively. In response, organizations worldwide are embracing the Circular Economy and reaping the benefits to their reputation, social & environmental impact, and even finances. There had been no word of acknowledgement, for all the grievous expositions made so far, why unmoved, not sensitized to the situation while in the seat of public's power? Public assignments with political lien are not to amass money for future party elections with freebies but for serving the common masses in a FAIR AND JUST CAUSE NOT ILLOGICALLY BIASED TO THE SECTION OF PEOPLE WITH DISCRIMINATION CAUSING NEGLECT TO SOME WITH HARASSMENT AND HUMILIATION.

A consensual approach to labour reform B YERRAM Creating an ambience where both workers and managements understand their rights and duties is no tall order The Centre is engaged in serious discussions with trade unions over the new labour code, with a view to improving the ease of doing business. But missing from the debate is the issue of the obligations of workers. During the 1960s and 1970s, workers' education, aided by the government, provided them with the opportunity to know their rights. But the whole campaign was on rights and not obligations. Once rights are conferred on any group, and they become binding, it becomes difficult to reduce or deprive such rights. Trade unions have also been the foundation on which many political careers have been built. Vested interests are bound to exist in such a context that could affect the speed of reforms. That said, interests need to be balanced. Productivity and security in industry depends as much upon the welfare of workers as that of management. Technology is a double-edged sword while knowledge is a sharp tool in the hands of both parties.

Industry is looking forward to flexibility in employing labour for various categories of the workforce, including non-

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(contd. from page 3)

permanent flexible category, linking pay to performance, reviewing work norms on a regular and real-time basis, healthy cooperation between the management and workers for introducing new technologies and new work practices, and promoting leadership among workers for efficient bargaining. Preventive litigation: We have Bar Associations right from the district to the State levels and the Bar Council with State chapters. There is no evidence that these organisations have ever put in efforts to prevent litigation. Whenever any dispute arises between management and labour, the advocates argue for workers' compensation. The Association could develop a code among advocates on preparing proper ground for arguments based on not just the law but on humanitarian and welfare considerations. Central trade unions, including the BJP-backed Bharatiya Mazdoor Sangh, are planning to protest strongly against the proposals MPERIASAMY. Draft Code proposes to allow firms with 300 workers to retrench without prior permission. NEW DELHI, MAY 3: Trade unions are up in arms over the Labour Ministry's proposals to allow firms with up to 300 workers to retrench employees without prior permission of the government and make it tougher to form a trade union. The proposals are part of the draft Labour Code on Industrial Relations Bill, 2015, prepared by the Labour Ministry to combine Industrial Disputes Act, 1947, the Trade Unions Act, 1926, and the Industrial Employment (Standing Orders) Act, 1946. Central trade unions, including the BJP-backed Bharatiya Mazdoor Sangh (BMS), are planning to protest strongly against the proposals. "We will protest against this provision under which firms will not have to take prior permission for retrenchment under draft Labour Code on Industrial Relation Bill 2015," Bharatiya Mazdoor Sangh Zonal Organising Secretary Pawan Kumar told PTI. At present, firms employing 100 or more workers are required to seek government's permission for retrenchment under the Industrial Dispute Act. "We will also oppose the proposal to make it tougher to form trade unions. Our President BN Rai will attend the tripartite consultation. The union is unanimous on opposing the government's proposal," he said. At present, any seven or more members of a trade union can apply for registration of the Trade Union. The proposed provision in draft code provides that 10 per cent of workers shall apply (be applicant) for registering a trade union. In cases where 10 per cent of workers is less than 7, at least seven workers are required (to apply) for the purpose and where the 10 per cent of workers exceed 100, hundred workers shall be sufficient for registering the trade union. "We have been opposing this when this was being implemented in Rajasthan. We will oppose it on May 6 meeting. They cannot make law stringent for forming trade unions," Hind Mazdoor Sabha Secretary A D Nagapal said. "When Rajasthan Government had sent the state bill with the provision (retrenchment) for Presidential assent, then Labour Minister Narendra Singh Tomar has assured us that it will not be done. But now they want to amend the central law, which would be applicable to entire country," he added. All India Trade Union Congress Secretary DL Sachdev said, "We will strongly oppose the proposal to exempt firm with up to 300 employees from seeking permission from the government to retrench and new provisions which would discourage formation of trade unions in India." He suggested that government should constitute a tripartite committee with employees' and employers' representative on board along experts to study the bill in detail before firming up the draft bill." (This article was published on May 3, 2015).

There are scholarships for workers' children, periodic health check-ups and other benefits available through Employee's State Insurance and other channels. An industry that provides knowledge and access to workers of many of such facilities can be incentivized through annual awards. Kindle Entrepreneurship: Each child from the age of twelve should be equipped with some skill or the other as part of the curriculum. Internships provide the best opportunity. During the vacations children could be provided access to such skills and services with the help of either the industry or the NGOs. This provides them the mindset of entrepreneurship. Such internships should get them some monetary incentives at the hands of the industry or establishment to which they are attached. FDI's that come in have their eyes set on markets and profits. They might, by restructuring processes, cause drastic reduction in employment. Therefore, enhancing the skills and even re-skilling and multiple skilling would assume importance so that alternate opportunities could be safely exploited without disturbance to the family life of the workers. Seafarers to enlighten themselves of those ashore and consider their hazardous occupation out on the deep seas and oceans. A culture of unity to prevail: We often hear people telling with pride that they belong either to a SBI family or the Tata group or Birla group long after they left the enterprise. Preserving this sentiment demands a basic recognition that industry is a larger family, and management is the karta of this joint family. Labour reforms hopefully would take adequate care of the welfare of the workers and enhance their productivity in India's unique cultural ambience. The new code and new statutes should accommodate these aspects.

Dr. Chandran Peechulli, Ph.D., F.I.E., C.Eng., MBA, Pg.DLL., LL.M., General Secretary, Chennai Society for Fast Justice, Regd. Consultant - Engineer and Law. Mg. Editor & Publisher "Marine Waves".

(contd. from page 2)

Goal-based standards in focus: A one-day workshop focusing on the goal-based standards safety level approach has been held in Hamburg, Germany (30 October). Expert participants from Germany, the



Netherlands and Sweden exchanged views on a draft proposal for functional requirements for SOLAS chapter III on life-saving appliances and arrangements. IMO's Bingbing Song attended the workshop as an observer.

Addressing the safety of ships on non-international voyages: A two-day (27-29 October) regional seminar on the enhancement of safety of ships carrying passengers on non-international voyages concluded today in Penang, Malaysia. The seminar provided an update on the latest developments undertaken by IMO in addressing



safety of passengers' ships engaged in domestic services. The seminar also highlighted the need to develop a structured approach in the form of fact finding and scoping studies. In addition to the seminar, IMO held a one-day training course to teach participants how to conduct a Hazard identification (HAZID) exercise as well as learn more on the use of Formal Safety Assessment processes.

The seminar, organized within the framework of IMO's Integrated Technical Cooperation Programme (ITCP), was co-funded by the Governments of Malaysia and Norway and hosted by the Maritime Department, Ministry of Transport of Malaysia. Two IMO consultants, Interferry, IACS and the Worldwide Ferry Safety Association provided expertise to the

seminar which was attended by Cambodia, India, Indonesia, Lao, Malaysia, Myanmar, Papua New Guinea, Philippines, Thailand, Timor-Leste and Viet Nam.

Preparing for nuclear and radiological incidents: IMO is participating in the Global Emergency Preparedness and Response conference (19-23 October),



joining a host of international organizations in an exchange of information on dealing with, and preparing for, nuclear and radiological incidents. Held in Vienna, Austria, and organized by the International Atomic Energy Agency (IAEA), the conference is covering topics such as protection strategies, training and communications. IMO publishing was also in attendance, promoting the publications of key IMO instruments, including the International Maritime Dangerous Goods (IMDG) Code, which deals with the transport of dangerous goods by sea, including the safe packaging and transport of radioactive material. IMO's Dandu Pughiuc, Marine Environment Division, addressed the conference. Mark Combe and Kushal Jaijee represented IMO publishing.

Developing maritime transport policy in the Pacific: A four-day workshop is being held in Suva, Fiji (20-23 October), aimed at boosting the knowledge and skills needed to develop, adopt, implement and update national maritime transport policies in relation to IMO instruments and with respect to shipping engaged in international trade. The workshop also aims to support wider regional and national maritime-related needs and objectives and show that these can be addressed while pursuing IMO-related goals. IMO pays special attention to the shipping needs of Small Island Developing States (SIDS) and the least developed countries, under its strategic plan. Of all the SIDS around the world, more than a third are located in the Pacific region and all but one are either IMO Members States or territories of IMO Member States. Some 26 participants from Pacific Island countries are attending the workshop, which is being delivered by World Maritime University (WMU) Associate Professor and Associate Academic Dean Patrick Donner, alongside IMO's Jonathan Pace and Nicolaos Charalambous. The workshop was jointly organized by IMO and the Secretariat of the Pacific Community (SPC).

Ballast water bugs under scrutiny:

Participants got up close and personal with some potentially invasive species in ballast water during a practical workshop on sampling and analysis of ballast water, held in Duluth, United States (19-21 October). The



IMO-GloBallast "Train-the-Trainer" workshop provided training for port State control officers and marine biologists from South America and the wider Caribbean region, in preparation for the implementation of the Ballast Water Convention. The workshop was hosted by the Great Ships Initiative (GSI) of the Northeast Midwest Institute (NEMWI), a ballast water management system testing facility located on the Great Lakes. A total of 14 participants from Argentina, Bahamas, Chile, Colombia, Jamaica, Panama and Trinidad and Tobago gained hands-on experience of sampling and analysis onboard a ship and at the NEMWI marine laboratory. Antoine Blonce and Theofanis Karayannis from IMO Headquarters attended the workshop, along with Vassilis Tsigourakos, GloBallast's regional coordinator for the wider Caribbean region, who is based at the Regional Marine Pollution Emergency Information and Training Center for the Wider Caribbean (REMPEITC-Caribe) in Curaçao.

IMO at ballast water management conference: IMO's Ballast Water Management Convention is ready for implementation - that is the



message delivered by IMO's Markus Helavuori at the 13th Ballast Water Management Summit in Rotterdam, the Netherlands (21 October). In a keynote speech addressing shipowners, operators and other stakeholders, an update on the convention was provided, including the points that the main obstacles for ratification have been removed and that early entry into force would have several benefits for all stakeholders - minimizing the risk of invasions by alien species and providing a level playing field from a regulatory perspective.

The BWM Convention will enter into force 12 months after ratification by 30 States, representing 35% of world merchant shipping tonnage. To date, 44 States with an aggregate of 32.89% of the world's merchant fleet tonnage have ratified it.



Capacity building in Somalia: As part of IMO's maritime capacity building programme for Somalia, a high level meeting aimed at harmonizing IMO's work for Somalia with the work of other UN agencies working for and in Somalia, was held in Nairobi, Kenya (16 October), hosted by the Kenya Maritime Authority. The meeting was briefed by the Honourable Nur Farah Hersi, Minister of Ports and Marine Transport of Somalia, representing the Federal Government of Somalia, and was also attended by representatives of the United Nations Assistance Mission in Somalia (UNSOM), the Food and Agriculture organization (FAO), the United Nations office on Drugs and Crime (UNODC), EU-CAP NESTOR and INTERPOL. IMO was represented at the meeting by Juvenal Shiundu, William Azuh, Kiruja Micheni and Purity Thirimu. IMO initiated a programme aimed at assisting Somalia establish a Maritime Administration in 2014, involving workshops, the review of the 1959 Somalia Maritime Code and the creation of a stakeholders' forum.

Maritime Training 5 Years From Now (by Murray Goldberg): For anyone involved in maritime training, now is an incredibly exciting time full of opportunity. More than ever before, there are advanced techniques and technologies available that can significantly improve training outcomes and access to training, while keeping costs under control. Properly

deployed, these advances will improve safety - on that, the research is very clear. What changes will we see in maritime training over the next 5 years? There are many, but space is limited so we will focus on a few of the most notable.

There are advanced techniques and technologies available that can significantly improve training outcomes and access to training, while keeping costs under control. Properly deployed, these advances will improve safety - on that, the research is very clear. So what's in store for the future of maritime training? What changes will we see in maritime training over the next 5 years? There are many, but space is limited so we will focus on a few of the most notable.

Blended Learning

It is easy to argue that the biggest advance in training in the last 20 years has been blended learning. Blended learning means using more than one technique for training delivery. It is just beginning to take hold in the maritime industry and I suspect it will be the biggest story in maritime training over the next 5 years.

In practice, blended learning usually means combining on-line learning with face-to-face learning. There are many ways to "blend" the learning experience, but let's look at one model - that of using on-line self-study as a precursor to classroom or on-board training. This is an incredibly successful model that has been proven in thousands of studies to significantly improve training while at the same time being reasonably inexpensive and easy to implement.

It is easy to understand how it can be helpful. Imagine a vessel familiarization course which begins with some online self-study followed by on-board instructor-led training. The on-line study would likely focus on foundational knowledge about the vessel, equipment, layout, routines, and so on. The instructor-led on-board training would then continue the process by developing the hands-on experience and skills to complete the learning.

There are many advantages over conventional training. First, the initial portion, being online, is very "trainee centered", meaning candidates can proceed at their own pace and on their own terms - increasing the likelihood that they will learn the required knowledge successfully.

Second, the on-line portion is guaranteed to teach company-vetted best practices. Most other forms of training, whether they are classroom or (especially) job-shadowing, are subject to a wide degree of variation according to the personal experience, biases and abilities of the instructor. This lack of standardization can be dangerous in a safety-critical environment.

Third, when the candidates arrive on-board or in class for their instructor-led training, all candidates now have a very uniform level of knowledge. This allows the

instructor-led training to be much more efficient because the "knowledge" portion of the training has already been covered and there is less variability to accommodate in the trainees.

If the maritime industry follows the successful path of higher education and other industries (and I see no reason to believe it will not), then blended learning will be a huge story over the next 5 years.

Analytics

Another trend that is sure to impact maritime training is the availability and use of analytics in training. A favorite business mentor of mine once said "if you can't measure it, you can't manage it". Nowhere does this apply more than it does in training.

Simply said, analytics are just measurements of the health of the training we provide. Examples of analytics include measurements such as:

- average exam scores (determine how your trainees are doing overall),
- average exam scores segmented by competency (determine whether some competencies are not being learned),
- average time on learning materials or in classes compared to performance scores (determine the efficiency of your training),
- or even performance segmented by employee background (determine which kinds of backgrounds yield better performers).

The point of knowing this type of information is two-fold. First, it allows you to find hidden training problems before they become performance issues or, worse, an accident. And second, knowing these numbers allows you to apply changes to your training and then determine whether the change made a positive impact. This is the essence of continuous improvement. Without it, you are shooting in the dark.

In the past, these analytics have been very time consuming and expensive to calculate and maintain - so very few organizations (aside from the most safety conscious) took the time. Now, however, sophisticated on-line training tools called learning management systems (LMS for short) are ushering in a new era of analytics - and consequently a new era of insight and improvement in training.

Adaptive Learning

Every vessel is a world unto itself - with different equipment, different routines, different layouts, and even different corporate and flag-state regulations. So the training for personnel on any vessel - especially familiarization training, is by necessity unique to that vessel. Until recently, the only way to accomplish this efficiently is through job shadowing - a staple in the maritime industry.

Sadly, job shadowing is one of the worst forms of training. It is difficult to standardize, almost impossible to measure, and highly variable in its effectiveness. Fixing these issues requires the creation of company-vetted, best practice training resources and programs for every vessel in your fleet. That would be a very daunting and expensive process - both in terms of the initial creation and the maintenance.

Fortunately, a relatively new technique called "adaptive learning" can help to solve this problem. Adaptive learning is a feature of some learning management systems. In essence, adaptive learning tailors the training program to each individual trainee - automatically. An LMS which supports this feature asks the trainee what role and vessel they are training for, and then automatically creates a set of company-vetted learning materials from training materials in the database. Each trainee receives an online, custom "textbook" targeted to that trainee.

Given the huge variability present in maritime operational contexts, no other industry that I am aware of can make use of this feature as effectively as the maritime industry. Therefore, adaptive learning is an important innovation to watch over the next 5 years.

Conclusion

This is an incredibly exciting time in maritime education. Change is afoot - and there is a formidable arsenal of tools waiting to be deployed for the benefit of safety in our industry. As indicated in the introduction of this article, if you are involved in maritime training in any way, it is time to take a hard look at your training practices because there are advances available that can significantly improve training outcomes, performance and safety.

Wreckage Confirmed to Be El Faro:

Wreckage found on the ocean bottom off the Bahamas has been confirmed by the National Transportation Safety Board to be the lost cargo ship El Faro, which sank with 33 crew aboard October 1.

Wreckage consistent with the 790-foot El Faro was discovered upright and intact by a U.S. Navy salvage team using side-scanning sonar equipment in the vicinity of the cargo ship's last known position on October 31, according to NTSB. The wreck sits roughly 15,000 feet below the surface.

A deep ocean remotely operated vehicle outfitted with a video camera was used to survey and identify the vessel, today confirming the sunken ship as El Faro.

El Faro went missing while sailing from Florida to Puerto Rico last month amid Hurricane Joaquin. The ship lost communication with the U.S. Coast Guard after the captain reported that the ship was without propulsion and was taking on water in the path of the storm. On board were 28 American crew members and five Polish contract workers, none of whom were rescued.

The search will now seek to retrieve El Faro's voyage data recorder in hopes of obtaining more information about the loss of the vessel, NTSB said. Survey of the area and vessel continues.

The Navy will attempt to recover any human remains should they be encountered during the search, NTSB said.

USCGC Healy - The Coast Guard's medium icebreaker:



was constructed by the Avondale Industries shipyard in New Orleans and launched on 15 November 1997. Commissioned on 10 November 1999, it is named in honor of Revenue Cutter Service Captain Michael A. (Hell Roaring Mike) Healy, the commanding officer, in succession between 1877 and 1895, of the USRC Chandler, USRC Thomas Corwin, and USRC Bear. As such, he was the most prominent representative of the federal government in the Territory of Alaska, acting as judge, doctor, and policeman to Alaskan natives, merchant seamen, and whaling crews. He carried renowned naturalist John Muir into Arctic waters in the 1880s and introduced reindeer from Siberia into Alaska as part of an effort to improve food, game, and clothing availability for Alaska natives. After commissioning, CGC Healy transited the Northwest Passage en route to its homeport of Seattle. The 420-foot long, 16,000 ton vessel is rated as a medium icebreaker. Its diesel-electric engines power two fixed-pitch four-blade propellers to a maximum speed of 17 knots. It has the capability for continuous breaking of 4.5 foot thick ice at three knots. Backing and ramming, it can break through ice up to eight feet thick. It has accommodations for nineteen officers, twelve chief petty officers, 54 enlisted personnel, 35 scientists, and can carry seventeen more persons when necessary. Designed as a research platform, it has laboratories for bio-chemical, electronics, meteorological, photographic, and general science. In January 2012, Healy escorted the Russian ice-capable tanker Renda through the ice to deliver emergency fuel to Nome, Alaska. Healy has voyaged to the North Pole twice. The first time was on 6 September 2001 in company with the German research icebreaker Polarstern. The second time was on 5-7 September 2015 while on the Geotraces Expedition for the National Science Foundation.

Singapore to Develop Maritime Ports in Egypt:

The Maritime Sector of the Egyptian Ministry of Transportation signed a Memorandum of Understanding (MoU) with the Port of Singapore Authority (PSA) as Singapore will operate and develop the Egyptian maritime ports, reports the Cairo Post.

President Abdel Fattah El-Sisi received on Tuesday president of the PSA Tan Chong Meng in the presence of Suez Canal Authority Chairman Mohab Mamish and Minister of Transport Saad Al-Goyoushi.

Presidential spokesman Alaa Youssef said the PSA chairman visit is part of President Sisi's follow-up of the outcome of his visit to Singapore in September.

Meng expressed his country's readiness to cooperate with Egypt in the field of running and operating ports as well as work in the development of Suez Canal projects.

For his part, Mamish explained the outcome of contacts with the Singaporean side on joint development projects.

The Memorandum of Understanding on joint cooperation was signed on Tuesday between Egypt's maritime transport sector and the PSA in the presence of Goyoushi and Meng.

"President El Sisi lauded Singapore's experience in economic and social development, underscoring his admiration for the level of progress that Singapore has achieved in the areas of the development, management and operation of seaports," said Egyptian presidential spokesperson Alaa Youssef.

U.S. Navy Christens Destroyer Rafael Peralta:

On October 31, General Dynamics Bath Iron Works christened the U.S. Navy's newest guided-missile destroyer Rafael Peralta (DDG 115). The ship is named for



Sgt. Rafael Peralta, U.S. Marine Corps, who was deployed to Iraq in Operation Iraqi Freedom.

Peralta was posthumously awarded the Navy Cross for actions during combat operations in Operation Iraqi Freedom. While clearing houses in Fallujah, Iraq, on November 15, 2004, a Marine squad, including Peralta, entered a house where the enemy silently waited. The squad was instantly barraged with intense small arms fire.

The fire knocked Peralta to the ground and mortally wounded him. As the firefight continued, the fleeing enemy threw a fragmentation grenade into the building. Peralta

absorbed most of the grenade's blast with his body, thus saving the lives of two fellow marines. Sergeant Peralta died from his wounds.

Rosa Maria Peralta, Sgt. Peralta's mother, is the ship's sponsor, and she officially christened the ship by breaking a bottle of champagne against the ship's bow.

The shipyard began fabrication on DDG 115 in November 2011, and delivery to the Navy is scheduled for 2016.

Rafael Peralta is the third of 14 ships currently under contract for the DDG 51 program. DDG 51 destroyers are warships that provide multi-mission offensive and defensive capabilities. Destroyers can operate independently or as part of carrier strike groups, surface action groups, amphibious ready groups and underway replenishment groups. DDG 113 and follow on DDGs are being built with Integrated Air and Missile Defense (IAMD) capability.

The all-steel 9,200 ton Rafael Peralta is 509 feet in length, has a waterline beam of 59 feet and a navigational draft of 31 feet. Like most modern U.S. surface combatants, DDG 51 utilizes gas turbine propulsion. Employing four General Electric LM 2500 gas turbines to produce 100,000 total shaft horsepower via a dual shaft design, DDG 51 (Arleigh Burke-class) destroyers are capable of achieving 30 plus knot speeds in open seas.

Technological advances have improved the capability of modern destroyers culminating in the DDG 51 class replacing the older Charles F. Adams and Farragut class guided missile destroyers. Like the larger Ticonderoga-class cruisers, DDG 51's combat capability centers around the Aegis Weapon System (AWS).

The DDG 51 class is comprised of three separate variants or "Flights": DDG 51-71 represent the original design and are designated Flight I ships; DDG 72-78 are Flight II ships; DDG 79 and Follow ships are built or are being built to the Flight IIA design.

Precedent for Cruise Ships: The UK P&I Club has issued new advice on shipowners' liabilities in the event of a norovirus outbreak.



Victoria Brown, UK P&I Club Senior Claims Executive, says, "Claims from passengers alleging that they have contracted gastric illness whilst on members' ships are common, and defending them requires significant amounts of documentation to establish that proper procedures were followed to prevent the occurrence and spread of infection,

along with evidence that the illness was not caused by any fault on the part of the ship or its crew. Consequently, members have often ended up settling these types of claims."

One method that has been used to defend such claims, or as a bargaining tool in settlement negotiations, is to argue that the illnesses were not bacterial but viral, and therefore unrelated to a lack of hygiene or food safety. Norovirus is a highly contagious viral infection that can flourish in the closed environment of a passenger ship. Evidence that a gastric illness is norovirus, rather than a food-borne bacterial infection, puts a shipowner on far stronger ground to argue that the illness was not due to any failing on its part, says Brown.

"A recent case, Nolan versus TUI UK Ltd, has demonstrated recognition by the courts that the owners and operators of passenger ships are not liable for norovirus outbreaks, provided the industry standard procedures to prevent illness outbreaks have been followed and the necessary measures are taken to manage and contain illness."

Eight passengers took TUI UK Ltd to court after suffering sickness and diarrhea during their May 2009 cruise on board the Thomson Spirit.

Hill Dickinson Solicitors acted for the defendants in the case. Maria Pittordis, partner and business group leader of the Marine, Trade and Energy Department, commented that the claim is the first of its type to be successfully defended at trial in the U.K. and is of great importance to the cruise industry in recognizing that norovirus is not caused by the ship, and that even with high levels of implementation of industry procedures, outbreaks do occur.

The U.S. Centers for Disease Control and Prevention lists nine incidents on cruise ships entering the U.S. so far this year:

Cruise Line	Cruise Ship
Princess Cruises	Star Princess
Oceania Cruises	Oceana Marina
Holland America Line	ms Maasdam
Princess Cruises	Coral Princess
Royal Caribbean Cruise Line	Legend of the Seas
Celebrity Cruises	Celebrity Infinity
Norwegian Cruise Line	Norwegian Pearl
Celebrity Cruises	Celebrity Equinox
Royal Caribbean Cruise Line	Grandeur of the Seas

World First: Drone Inspects Oil Tank on FPSO: Cyberhawk Innovations has completed its first ever remotely operated aerial vehicle inspection of a cargo oil tank on an operational FPSO.

The world-first inspection took place on board the Gryphon FPSO owned and operated by Maersk Oil in the U.K. North Sea. Like other FPSO operators, Maersk Oil has requirements to visually inspect cargo tanks for integrity, damage



assessment and class certification. This type of inspection is usually conducted by rope access technicians who are suspended on ropes to inspect the tank structure, focusing on areas of high stress such as stiffeners, brackets, bracing, webs and stringers.

One of Maersk Oil's main priorities was to reduce the human risk factors which are presented by rope access which include working at height for sustained periods of time as well as working in confined spaces.

Inspecting the tank with Cyberhawk's drone allowed Maersk Oil to undertake a quick and safe audit of the tank, in turn allowing them to identify and more efficiently plan for any possible contact based inspections in both this and other tanks, says Cyberhawk. The inspection of the critical components of the tank was completed within a day, in comparison with rope access which would usually take between three to four days for the same workscope.

This inspection technique can now be applied to all large internal tanks on vessels such as FPSOs, bulk carriers and tankers.

Five Missing after Vessel Capsizes: At least one crewmember is dead and five are missing after the general cargo ship Hoang Phuc 18 capsized eight nautical



off Ho Chi Minh City, Vietnam. The incident occurred on October 30 and rescue teams, including 20 divers, spent the weekend searching for survivors. According to reports, 12 of the ship's 18 crewmembers have been rescued thus far.

Hoang Phuc 18 capsized when it was caught in inclement weather as it was anchored on the Soai Rap River. The vessel was transporting 700 tons of stone and machinery from the southern Dong Nai province. Divers have faced difficulty in locating the remaining crewmembers due to poor weather.

Tech-Savvy, Adaptable Seafarers Needed:

Captain Pradeep Chawla, Managing Director, QHSE & Training, Anglo-Eastern Ship Management



The last two decades have been extremely fast paced with respect to technology influencing every walk of life. Internet, Google, Facebook, LinkedIn, smartphones, WhatsApp etc. and their effects on the way we communicate, interact and learn are well-known.

The maritime industry has also made great strides in the use of technology, and the daily life on board ship has changed significantly from what it was in the 1980s and 1990s.

Here is a quick review of some of the changes that have taken place already or are coming in the next decade or two and my opinion on the challenges associated with them.

1. ECDIS is a revolutionary change, and there is no doubt that it has improved safety of navigation. The full benefits of ECDIS will be realized as e-navigation strategies evolve.

The discussions of type specific familiarization for ECDIS have made it obvious that non-standardized interfaces present a challenge in the processing of information by the navigator, and this is an aspect that needs to be carefully analyzed and addressed as we move forward with e-navigation.

2. Electronic engines controlled through advanced computer systems bring about similar issues for the engineers. However, presently, with the market domination of only two brands, this has not led to the issues experienced with ECDIS. Nevertheless, the issue of processing, analyzing and controlling data from a single screen is a dramatic change from "touching," "feeling" and "hearing" sounds from the machinery.
3. Position fixing with GPS, combined with ECDIS with radar overlays, has revolutionized the bridge watch-keeping practices. Over-reliance on GPS is a constant discussion amongst older navigators and the younger ones who have never witnessed a GPS failure. The younger navigators question the practices of manual / radar fixes when they seem to be obtaining continuous accurate positions from three or four GPS sets on board. The debate on the concept of "cross-checking" a vessel's position is taking a whole new meaning with the advent of combined GPS/GLONASS receivers coupled with other

satellite positioning systems on the horizon.

4. E-Navigation, as presently envisaged by IMO, is a dynamic target and the evolution brings about various challenges of collection, integration and analysis of data. The way mariners will interact with e-navigation presents a number of challenges that need to be carefully studied and risk assessed as new equipment and systems are designed and developed. Alarm management will be a critical feature here.
5. Besides the social media byproducts of the internet that have become an integral part of our lives, the introduction of cheaper communication has resulted in increased volume of data exchange being handled by vessels. There are additional tasks to manage the various software issues. The increased use of electronics has come with the problem of frequent hardware related breakdowns. There are several cases of Radar, ECDIS and other electronic equipment breaking down, thereby putting extra stress and workload on the mariners who have to wait till a suitable port for repairs.

There is a need for standardization and having strict equipment quality monitoring standards at manufacturing and installation stages so that they are better able to withstand marine conditions and have better "mean time between failures." The time spent on handling the increased enquiries and requests from people ashore is a significant factor that brings about challenges in designing onboard tasks and responsibilities to prevent any neglect of the core tasks of navigation and care of the cargo.

6. Environmental regulations are evolving and developing rapidly. Regulations for measurement of harmful gases are inked. Ballast water treatment plants are being fitted. Emission regulations are being rapidly tightened. The shipping industry is under environmental pressure from the world's citizens, and efforts to educate seafarers in their role in this are urgent and important.
7. The Maritime Labour Convention (MLC), which was a much needed legislation for rights of seafarers, has focused the attention of companies and port states on the issue of rest hours. However, it has not yet focused the attention of the port states and regulations on the cascading effects on safety of navigation, especially in areas of long pilotages. The effects on traditional expectations of a master's presence on the bridge and the laws about the responsibilities of the pilots have not been sufficiently deliberated over prior to the entering into force of the MLC. This brings about testing times for the mariners, who often are the scapegoats of regulatory decisions when things go wrong. The fundamental issue is the manning scales on board, and regulators find it impossible to get consensus between various countries.
8. The traditional hierarchy on board and the management style of "My Ship, My Law" has become obsolete in modern days. Whistle blowing, MLC complaint procedures and transparent systems have brought about a change in the way masters and companies manage

their workforce.

9. The amalgamation of ship and shore systems is inevitable and an inherent part of E-Navigation. However, it opens up fresher challenges of cyber-security. The possibilities of terrorists taking over a ship remotely are being speculated. Mariners will soon need to understand and appreciate the dangers associated with cyber hacking.
10. Big data is becoming the buzz word in all industries. The maritime industry is a traditional industry and usually not the first to adopt the latest technologies. The advantages of business intelligence through the use of big data are enormous, and it would be good if the industry does not delay investing in this new field.

Besides the areas discussed above, the mariners are also faced with changes being brought about by increasing number of regulations:

SOLAS 74 was 158 pages. SOLAS today is 294 pages.

Marpol 78 was 265 pages. Marpol today is 447 pages.

STCW 78 was 243 pages. STCW 2010 is 356 pages.

And we of course have the Maritime Labour Convention (110 pages).

Ballast Water Convention (38 pages).

Anti Fouling Convention (45 pages).

This is without counting regional regulations like OP90, Vessel Response Plans, SOPEP etc etc.

A rough estimate is that a master needs to be familiar with at least 4,500 pages including the company's SMS and owner's and charterer's instructions.

So what competencies should our future super-mariners need? In my opinion the most critical human factor competencies that are needed in the future are:

1. The ability to process large amounts of data from various man-machine interfaces:

Standardized and well thought out user interfaces will be a critical part in the design of future shipboard equipment. Insufficient research or attention to this could endanger the progress of adoption of new equipment and systems. Accident case studies show that the majority of situational awareness errors are due to a failure to monitor or observe data from various pieces of equipment due to either overload of information or distractions.

2. The ability to focus on critical issues

Overload of information can cause the danger of missing out on the critical issues. This issue is already being experienced on the modern day bridge. The plethora of alarms and displays sometimes distracts the navigator from keeping a proper lookout by sight and other available means.

3. The ability to work with remote teams

Teamwork on board is well understood at sea. However, with the closer integration of ship and shore systems, a large number of tasks will be done by people ashore. Vessel traffic

services will have a larger role to play. Teams ashore will analyze engine data and advise the shipboard teams. The large mix of shipboard crew nationalities and multi-national shore teams will bring about new challenges in communications and teamwork.

4. The ability to be assertive

Interaction with a larger number of shore based teams will require a clear emphasis on a master's over-riding authority enshrined in the ISM code. With the lower costs of communications and e-mail systems, masters are already reporting a feeling of being controlled too closely by shore staff. While the laws make the master responsible for all accidents, the reality is that masters feel that their authority with respect to day to day running of the vessel is being taken away.

5. The ability to understand the limitations and recognize changes of automation

Significant improvements are expected in automation of shipboard systems. Other industries have recognized that automation leads to complacency, thereby resulting in slower response in case of emergencies related to failure of automation. Other industries already talk of "Automation Complacency" and "Automation Traps."

6. The ability to manage change

The pace of change of technology and regulations in all industries has never been faster. We see the challenges in adopting change in our daily lives. Instagram and Snapchat are not needed by people in their 50s. However, for a teenager they are basic necessities of daily life. A significant number of seafarers and managers ashore are experiencing challenges with adapting to ECDIS or accepting the inevitable irrelevance of celestial navigation to a young officer.

7. The ability to learn continuously

The human race is discovering new knowledge faster than ever before. It is no longer possible for any professional to be considered competent without constantly keeping abreast and subsequently adapting to these changes.

8. The ability to cope with increased stress

The shorter turnaround in ports, faster speeds of transit, larger size of vessels, stricter financial constraints, extremely low manning levels, criminalization of seafarers and various other factors have changed life on board to a high-stress job. Social media is a wonderful way of keeping touch with the family, but it also has an effect on rest hours and it brings the problems of the family closer on board. The high stress levels amongst seafarers and the effects on their health is not being fully recognized and appreciated by regulators and industry leaders. A lot more research is needed on the topic of stress affecting seafarers.

9. The ability to communicate effectively

The ship-shore and ship-port interface is becoming more complex due to various factors like port security (without the port taking any moral or financial responsibility for a stowaway boarding a vessel), terminal regulations and

increased pressure on profits in all parts of the industry. The role of the master to effectively deal with charterers, terminals, port state officials, oil major inspectors and the multitude of agencies that now come on board the ship has become more critical than ever before.

10. The ability to be a leader

In addition to the master and chief engineer of the future retaining their traditional skills of managing their shipboard teams, they will also need to learn and adapt to various new skills of organizing, motivating, negotiating, running meetings, public relations and time management. The seafarer of the future will need to be a tech-savvy, adaptable, analytical and rational manager who will be able to do a lot more with better technology and shore-based support. Or perhaps, he will be sitting ashore monitoring drone ships!

Various companies are already tackling these issues through their recruitment and training programs. Psychometric testing in some form has been adopted by many companies to try and identify the behavioral competencies needed for the future mariner.

Training requirements can only keep on increasing with increased regulations. Blended learning, outcome-based education and on the job training will take on a greater significance in the future.

Our industry, like others, is going through a transition and debate continues between the believers in the traditional good old ways and the futurists who are looking at technology and modern human performance management theories to get ready for the future. But, there is no doubt that focusing on human factor competencies is critical for progress in our industry.

The maritime industry has only recently started looking at human factor competencies. One of the most significant amendments of the Manila Convention (STCW 2010) was to incorporate competencies for leadership, teamwork and managerial skills. Even the name of the IMO's sub-committee on "Standards of Training and Watchkeeping (STW) changed to "Human Element, Training and Watchkeeping (HTW)" in 2014. *Source: maritime-executive.com*

Carnival's Two New Cruise Ships To Sail With ABB's Azipod Propulsion: ABB, the leading power and automation technology group, has won a repeat order worth US \$60 million to deliver complete electrical power plants and Azipod® XO fuel-saving electric propulsion systems for Carnival Corporation's two new cruise vessels.

ABB's delivery will also include generators, main switchboards, a remote control system and distribution transformers. Azipod propulsion is a gearless steerable propulsion system where the electric drive motor is in a submerged pod outside the ship's hull. It improves safety, fuel efficiency and is the most environmentally friendly propulsion system.

The ships, to be built by Fincantieri shipyard in Italy, will sail under Carnival Corporation's brands Holland America Line and Carnival Cruise Line. The new vessel for Holland America



Line will be a sister ship to Koningsdam, currently under construction at the Fincantieri shipyard. The vessel will have a gross tonnage of 99,500 tons, accommodate up to 2,650 passengers and will be delivered in Q4/2018. Carnival Cruise Line's new, 3,954-passenger vessel will be a sister ship to Carnival Vista and it is the 26th ship in the cruise operator's fleet. The delivery for this new ship is scheduled for Q1/2018.

"These beautiful new ships on order from Fincantieri signify our ongoing commitment to provide the best possible guest experience across our industry-leading brands," said Arnold Donald, president and CEO of Carnival Corporation. "New ships with the latest features, accommodations and innovations really bring the modern cruise experience to life and will help us continue to grow new demand for cruising."

"We are pleased to continue our collaboration with Fincantieri, which is known as one of the world's leading cruise ship builders. Longstanding customer relationships with leading shipyards such as Fincantieri are testament to our continued dedication to quality and customer value," says Heikki Soljama, managing director for ABB's Marine and Ports business.

The collaboration between ABB and Fincantieri spans over 25 years: ABB's first electric propulsion delivery to Fincantieri was for a Carnival cruise ship in 1990. Since then, 14 ships built by Fincantieri have been equipped with ABB's Azipod propulsion. Twenty-four of Carnival Corporation's ships are equipped with Azipod propulsion.

Radio Holland To Collaborate With BIO-SEA For UV Ballast Water Treatment: Radio Holland and BIO-SEA are combining their specialized knowledge to provide global integration solutions for ballast water treatment (BWT). Radio Holland provides the installation and service expertise, while BIO-SEA provides its ballast water treatment UV based system range. Ballast water has proven to be an economical and environmental problem, because it disperses invasive species. These can cause a local ecological calamity with major environmental consequences and highly expensive 'ecological repair' programs as a result. Legislators IMO and USCG have therefore introduced strict legislation.

The ballast water treatment installations will filter and disinfect the ballast water. This disinfection will be done by



means of UV-C light. 'This happens at 254 nanometers, the optimal wavelength for UV-C light to render micro-organisms inactive. The light penetrates the core of the DNA, and subverts the metabolism of the cells', explains Xavier Deval (Business director Bio-Sea). He continues: 'What is most important is that the correct UV dose is applied. Otherwise the ship will not comply with regulations, because the water is not correctly treated.'

The close collaboration between Radio Holland and BIO-SEA assures that the BWT systems work in perfect harmony and are easily integrated into the infrastructure of each type of vessel, newbuild, as well as retrofit vessels. The projects are conducted by in-house specialists, from 3-D scanning, reverse/forward engineering to installation and commissioning. The global Radio Holland network provides optimal service and maintenance.

Michiel Veen (Managing Director of Venteville, part of Radio Holland), says: 'These ballast water solutions are available in skid form, but are also modular for integration in existing engine rooms. Besides our existing disinfection solutions based on chloride, these UV-C light systems complete the Radio Holland portfolio. This enables us to provide a cost effective solution for every vessel with a ballast water system. Something we realize is very important because of the extra costs that the new legislation entails.'

An example of the Radio Holland - BIO-SEA ballast water treatment system will be shown at the Europort exhibition on the Venteville stand, hall 8, stand number 8207.

Alfa Laval PureNOx Prime Cuts EGR Space And Investment Needs: As the implementation of Tier III NOx limits approaches, Exhaust Gas Recirculation (EGR) is rapidly maturing. Now Alfa Laval has introduced Alfa Laval PureNOx Prime, a streamlined version of its EGR water treatment system for EGR engines operating with low-sulphur fuel. Smaller and leaner than its predecessor, Alfa Laval PureNOx Prime gives EGR an even sharper competitive edge.

Many ship owners are considering their choice for compliance with Tier III NOx limits, which will soon apply in the North American and US Caribbean Emission Control



Areas (ECAs). EGR is already the technology front-runner, due to its significant space savings and low total cost of ownership. But with the introduction of Alfa Laval PureNOx Prime, recently launched at Kormarine, EGR's advantages are even stronger.

"Alfa Laval PureNOx technology has always met the strict legislative demands on EGR water treatment," says Kristina Effler, Business Manager, Water Treatment Exhaust Gas Emissions. "With Alfa Laval PureNOx Prime, we put additional emphasis on the tough market demands of low investment and operating costs."

Reduced footprint and investment cost: For use with low-sulphur fuel, PureNOx Prime is a highly streamlined water treatment system. "EGR is a compact technology in which most components are built into the engine itself," says Effler. "PureNOx Prime further diminishes the EGR footprint, and it has a more modular design that makes installation even more flexible."

Naturally, the leaner design also reduces the investment cost. "The more hours spent in ECA operation, the more economical EGR becomes," Effler says. "With PureNOx Prime available for less, that low lifecycle cost becomes even lower."

Technology proven at sea: What remains unchanged in PureNOx Prime is the reliable water treatment, which is a crucial aspect of EGR operation. The PureNOx technology, which makes use of centrifugal separation, has been proven in thousands of hours of real-life operation at sea.

"Alfa Laval PureNOx technology has been developed in close cooperation with MAN Diesel & Turbo and tested extensively aboard vessels from A.P. Moller-Maersk," says Effler. "Simply put, PureNOx Prime packs the already proven PureNOx performance into a much smaller footprint."

Shipping Braces For Pollution Tax After Paris Talks: The shipping industry expects to be stung by a carbon levy as momentum building from climate talks in Paris starting this month makes a cut to its greenhouse gas emissions likely.

Any tax - either a levy based on fuel use by diesel-driven ships or a market based mechanism - would add to rising costs for the industry, which transports 90 percent of world trade.



A draft Paris text makes scant mention of reducing CO2 from marine bunker fuels. Yet ship industry sources say some form of taxation is expected to come in the wake of any deal at the Nov.30-Dec. 11 summit.

"We do expect that sooner or later shipping will be regulated on CO2," said John Kornerup Bang, lead advisor on climate change with Maersk Group, which owns the world's biggest container shipping line.

"Some carriers would be better at managing it than others."

The latest IMO study showed shipping had reduced greenhouse gas emissions (CO2) to 2.2 percent of the world total from 2.8 percent in the five-year period to 2012. The study projected CO2 shipping emissions would rise and could grow by 50 percent by 2050 depending on the pace of world trade and what action was taken.

Ship emissions were omitted from national commitments under the U.N's 1997 Kyoto Protocol, which ceded control to its shipping agency, the International Maritime Organization (IMO).

The IMO has said it had already reduced airborne emissions via mandatory regulations, but it is seen by environmentalists as slow moving.

Last month, the European Commission set an end-2016 deadline for the IMO to present CO2-cutting measures, which Europe's shipping industry lobby said was "unrealistic".

Campaigners have urged tough targets for both shipping and aviation plus some kind of levy to be included in the text of a climate deal.

"The 2 degree global warming limit becomes next to impossible if Paris gives these sectors a free pass," said Bill Hemmings with campaigner Transport & Environment, referring to a goal of limiting average temperature rises to 2 degrees Celsius (3.6 Fahrenheit) above pre-industrial times.

In a paper published in October, the International Transport Forum, an inter-governmental organisation within the OECD, recommended a carbon tax for shipping, which could feed into the U.N.-backed Green Climate Fund if needed, plus clear CO2 targets.

Maersk's Kornerup Bang said shipping had to take its fair share of CO2 reductions despite tougher market conditions.

"We do prefer a levy - that is fairly easy to administer. But we are keen to emphasize that it has to be global, flag neutral and reward early movers," he said.

"It is obvious to everybody that rates are low and there are structural challenges in the industry ... we all suffer from that."

Worse-than expected container overcapacity led Maersk to issue a profit warning last month, adding to woes in other shipping markets, reeling from a slump in commodities.

"If the shipping industry has to pay for this, they will pass it on to the consumer," said Clay Maitland, a managing partner with top ship registry the Marshall Islands.

Wreckage Of El Faro Found Upright And Intact On Ocean Floor: A large ship found in deep water off the Bahamas is the lost freighter El Faro that sank with 33 crew members in a hurricane last month, U.S. authorities said on Monday.

The wreckage, in an upright position and intact on the ocean floor, was initially detected by a U.S. Navy salvage team over the weekend at a depth of nearly three miles (5 km). It was found in the vicinity of El Faro's last known location off Crooked Island in the southeastern Bahamas, the U.S. National Transportation Safety Board said.

The Navy salvage tug Apache subsequently deployed a deep ocean remotely operated submersible, CURV-21, equipped with a camera to confirm the identity of the ship, officials said.

A salvage team will now seek to retrieve the ship's voyage data recorder - similar to an airplane's black box - which could contain vital clues for the NTSB-led investigation into what sank the El Faro.

The 790-foot (241 meter) cargo ship, disappeared on Oct. 1 on a regular weekly run between Florida and Puerto Rico after the captain reported losing propulsion and taking on water.

The crew included 28 Americans and five Poles and there are no known survivors of the worst cargo shipping disaster involving a U.S.-flagged vessel since 1983.



The wreck is sitting in such deep water - 2,500 feet (760 meters) deeper than the Titanic - that it is beyond the reach of divers.

The eight-foot-long (2.4 meter) CURV-21 is designed to operate in depths up to almost four miles (6 km) and has arms that can be remotely manipulated from the Apache

via a fiber-optic cable, said Christopher Johnson, spokesman for the Naval Sea Systems Command.

The submersible is also equipped with another, smaller remotely operated vehicle called X-Bot that can be used to enter smaller spaces if necessary, Johnson added.

Claudette Riley, sister of El Faro crew member Mariette Wright, 51, welcomed the discovery of the wreck but said the potential recovery of the data recorder "brings a whole new wave of sadness."

She said she was afraid of what it might reveal "about how scared they all must have been."

Riley said she and her family were not optimistic the Navy would be able to recover the remains of crew members at such a depth.

The cargo ship's owner, Tote Inc, is facing four lawsuits filed by relatives of the crew, alleging the ship was not seaworthy and charted a course too close to Hurricane Joaquin.

Tote filed for liability protection in a federal court in Florida on Friday, citing U.S. maritime law and saying the ship was "seaworthy and properly manned" and that the company bears no responsibility for its loss.

Important Points For Logbook Keeping On Ships:

"If a person intentionally destroys or mutilates or renders illegible any entry in any statutory log book on ship, he will be liable for a fine or be arrested for destruction of official records". How often have we come across such disclaimers onboard while maintaining the ships' official records? Be it the Official Log Book, Oil Record Book or the Engine / Deck Log Books, all have to be maintained in manners that best represent the ship and the owners / managers.



Normally, record keeping is a separate topic discussed in the company's SMS systems. Some require the vessel to maintain old official records for as long as up to 5 years. Yes, that creates a lot of clutter so to speak, but that's that. However, since record keeping is of utmost significance and that each event occurring onboard has to be best recorded for all the official and legal intentions, we shall discuss what one has to bear in mind while jotting down the entries in a few important log books.

Here I would like to stress on some of the points that we sometimes miss out while filling up the official logs onboard. This is to bridge the gap for the knowledge we have from our competence / experience at sea and the guidelines

provided with each of the log books according to the international regulations.

Official Log Book: The heads of their respective departments are fully and the only ones authorized to maintain this statutory log book and the Master has the overall responsibility to oversee its authenticity and appropriateness. The log book is considered to be a running log of all official events such as Arrival / Departure of the vessel to / from port, Draughts, Freeboards, Onboard Emergency Drills, Crew onboard, Fuel/Fresh Water ROB, Master's Handing Over/Taking Over, etc. Although some flag states do provide a short guide for keeping the official log book and while some don't, it is imperative that all entries must be made in a professional and legible manner. A few pointers while making such entries -

- All entries should be made as soon as practicable after an event occurs, since all the logs are running records of the vessel it makes record keeping vulnerable if delayed in entirety.
- Only authorised personnel should make such entries. Master may designate personnel to do so.
- Entries to be signed where required by the person making such entry and by the person witnessing the event.
- All entries must have a date and time recorded
- It will be the Master's responsibility to ensure the Official log book is accurately filled and signed.
- Entries made in the log must not be amended or deleted under any circumstances unless the Master authorizes the cancellation. If it is to be done, it is a good practice to make sure the entry is stroked out with a single line and an initial put against the omitted entry.
- If the entries cannot be contained within the log books' pages due to their length, they must be entered separately in a separate document, endorsed and attached to the log book. A reference number may be given for easy record tracking.

Oil Record Book: MARPOL 73/78, Annex I states that each oil tanker of 150 GT and above and every ship of 400 GT and above shall be provided with an Oil Record Book Part I (Machinery Spaces) and each oil tanker of 150 GT and above to carry an Oil Record Book Part II (Oil Cargo Ops). This means the log is a mandatory record of everything related to oil and its handling onboard. This further means that the record will be compulsorily checked by all inspectors / auditors coming onboard for surveys. In fact the log is so closely scrutinised that even a slightest hint of overwriting can be ruinous. Therefore to avoid such mishaps happening, here are a few pointers.

- Firstly, check whether the Oil record book supplied onboard is as per the Convention. Some publications not catering to the forms prescribed in MARPOL have been found onboard while inspection.
- All filling and discharges of oil and oily mixtures to / from the ship's tanks must be recorded in this log without delay and to the best knowledge known with exact figures and units.

- Each entry of a completed person made must be signed by the officer in charge.
- Without the Master's signature on each completed page the log book would be considered incomplete and ineligible.
- Make sure the ship's particulates and oil tank details are correctly filled where required.
- Sometimes, ships have been arrested on the bases of accidental discharges not been recorded appropriately. Even emergency discharges such as cargo jettisoning must be entered into the log book without delay as time permits.
- It is also required to enter details regarding oily mixtures, tank washings, dirty ballast transferred to shore reception facilities along with the time and date of such operation. A certificate or a receipt so provided by the shore facility must be filed onboard and a copy of such receipt may be attached to the log book. This may help the ship ascertain that a legible transfer operation was carried out.
- For operations conducted at sea (considering the MARPOL regulations) such as Crude Oil Washing, Ship-to-Ship Transfer and likewise, it is crucial that the vessel's precise position is entered in the log book. This will avoid further inquiries should the inspectors suspect any foul play.

Garbage Record Book: Another hot favorite with the inspectors surveying the vessel! This log is to be accurately maintained onboard as per Regulation 10, Annex V of MARPOL 73/78 wherein all garbage disposals, discharges or even accidental losses are recorded. There have been cases where inspectors have been able to point out various ambiguities in the log keeping procedures. Hence, in order to steer clear of such doubts whatsoever the person in charge of the log keeping must ascertain the accuracy of the log is maintained throughout the log keeping periods.

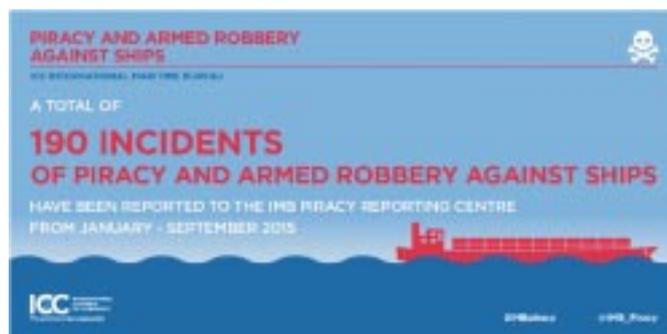
- Each Garbage Record book must be checked for the latest and revised version. The Master and the Person in Charge, in most cases the vessel's Chief Officer, are responsible for keeping up to the amended international standards.
- The Ship staff must be able to identify different categories of garbage as per the regulations. Plastics, Food Waste, Domestic Wastes, Cargo residues, etc are distinguished into various categories of garbage. So, when the products are discharged or disposed ashore at shore reception facilities, entries must be made in the log book with respect to that particular product only. For example, discharge of Cooking Oil cannot be classified as Food Waste or Cargo Residues cannot be entered as Operational Wastes.
- Most mistakes happen when quantities of discharged garbage entered in the log book are found in vague amounts. The Person in Charge must amount the garbage onboard as per the international requirements and generally measured in cubic meters. During inspection, it has been found that recognizing the

accuracy of the amount of garbage discharged or offloaded has not been converted precisely with sundry amounts entered in the log. What's more, the same mistake has been found to be 'copied / pasted' throughout other entries. For example, 0.5m3 of garbage amounts to 500 liters by volume. So, if 500 liters by volume of plastics are disposed ashore every 3 days (assuming the vessel is in port) it calls for a recalculation. Sometimes, entered amount 0.5m3 is mistaken for the actual amount discharged 0.05m3 (50 liters by volume). This is a reason for concern.

- Each entry must be counter signed by the Person in Charge and Master to endorse all the entries for closure.
- Overwriting an entry must be avoided at all costs. It is always recommended to strike the incorrect entry cleanly and provide initials.
- The Ship's position must be logged down along with the time when garbage was discharged at sea. Care must be taken here that all discharges at sea comply with MARPOL Annex V regulations. It is a good idea to plot the same on the chart for easy reference.

Arrests And Prosecutions - A Positive Response To Piracy: Despite an overall global reduction in serious piracy attacks this year, the International Maritime Bureau's Piracy Reporting Centre (IMB PRC) cautions against complacency in its 2015 report for the year to 30 September.

Southeast Asia cracks down: In Southeast Asia, a piracy crackdown appears to be bearing fruit, with only two hijackings reported in the third quarter of the year. Indonesian and Malaysian authorities have also arrested and in some cases prosecuted, members of product tanker hijacking gangs, notably those behind the MT Sun Birdie and MT Orkim Harmony attacks. "The robust actions taken particularly by the Indonesian and Malaysian authorities -





including the arrest of one the alleged masterminds - is precisely the type of deterrent required," said IMB Director Pottengal Mukundan.

The two hijackings, on a small product tanker in the Straits of Malacca and a fishing vessel 40-miles west of Pulau Langkawi, were among 47 incidents the IMB PRC recorded globally between July and September.

To date 190 incidents of piracy and armed robbery against ships have been officially counted this year, the greatest number in Indonesia, which tallied 86 mainly low-level incidents, followed by Vietnam with 19 low-level reports.

"The robust actions taken particularly by the Indonesian and Malaysian authorities - including the arrest of one the alleged masterminds - is precisely the type of deterrent required," said IMB Director Pottengal Mukundan.

Actual number of attacks believed to be higher: While only one new incident of an actual attack was reported for the last quarter in the Gulf of Guinea, IMB believes the real number to be considerably higher.

No incidents have been noted off Somalia or in the Gulf of Aden this year, previously a piracy hotspot. IMB says the positive development reflects the combined efforts of navies in the region, along with greater compliance with the Best Management Practices guidelines against Somali piracy, the employment of private security contractors and a stabilizing government. Suspected Somali pirates continue to hold 29 crew members for ransom.

The report urges vessels to maintain vigilance, noting the "increasingly fragile" situation ashore Somalia, with the threat of piracy not "eliminated".

In all, this year has seen 154 vessels boarded, 21 attempted attacks and 15 vessels hijacked. A total of 226 crew were taken hostage, 14 assaulted, 13 injured, 10 kidnapped and one killed.

As the world's only independent centre to receive reports of pirate attacks worldwide 24 hours a day, IMB also calls on all shipmasters and owners to report any actual, attempted or suspected piracy and/or armed robbery incidents to its Kuala Lumpur-based Piracy Reporting Centre.

This first step in the response chain is vital to ensuring that adequate resources are allocated by authorities to tackle the scourge of maritime piracy. Transparent statistics from an independent, non-political, international organization is an effective catalyst to achieve this goal.

Floodgates opening: China dealt fresh blow in South China Sea disputes as Hague court to look into half of Philippines' claims against country: Further challenges to Chinese ambitions likely after court of arbitration rules it has jurisdiction over Manila's submissions in territorial dispute

A decision by a court in The Hague to take immediate jurisdiction over seven out of 15 submissions by the Philippines against China regarding territorial disputes may encourage others to challenge Beijing's South China Sea claims.

The decision came as China's navy chief warned his US counterpart encounters between their forces could spiral into conflict, state media reported, two days after a US destroyer sailed close to Beijing's artificial South China Sea islands.

'The Philippines may, and probably should, get a favourable ruling overall. But we should not forget that the Court will also take China's historic rights into account' – Euan Graham, Lowy Institute.

The Permanent Court of Arbitration ruled on Thursday that it had jurisdiction over 15 submissions by Manila, including one that calls into question the validity of China's claims based on the nine-dash line under international maritime law as defined by the United Nations Convention on the Law of the Sea (UNCLOS), which China has ratified.

Beijing insists it has sovereign rights to nearly all of the South China Sea, a strategic waterway through which about a third of all the world's traded oil passes.

War of words: Beijing fumes as US threatens to send more warships near disputed South China Sea islets:

Analysts said the tribunal's decision had already put China at a disadvantage, as it might encourage the other claimants.

"In the short term, it will provoke strong responses by all parties involved in disputes in the South China Sea," said Zhang Xinjun, a maritime law expert at Tsinghua University.

Ian Storey, senior fellow at Institute of Southeast Asian Studies (ISEAS), said a victory for the Philippines would be an indirect victory for the other claimants.



The USS Lassen, a guided missile destroyer, visited Subi and Mischief Reefs in the South China Sea this week, angering Beijing.

In rejecting the arbitration, Beijing said it would disregard any findings by the tribunal and that it had no jurisdiction over territorial sovereignty disputes.

Tension in the South China Sea has escalated since the US destroyer USS Lassen sailed within 12 nautical miles of two Chinese artificial islands on Tuesday, with Admiral Wu Shengli, China's navy chief, warning his US counterpart Admiral John Richardson during a video call on Thursday.

"If the US continues to carry out these kinds of dangerous, provocative acts, there could be a serious situation between frontline forces from both sides on the sea and in the air, or even a minor incident that could spark conflict," Xinhua paraphrased Wu as saying.

The foreign ministry yesterday said China had made a declaration on optional exceptions under Article 298 of UNCLOS in 2006, which meant no country could unilaterally invoke compulsory procedures on territorial disputes without the consent of China.

However, refusing to appear in court would damage China's image and make it appear China was defying international rules and bullying smaller nations, said Zhang Mingliang, a researcher at Jinan University.

US risks conflicts with its 'provocative acts' in the South China Sea, China's navy chief warns: "China should take into consideration some interests and concerns of the Philippines, and let them see some hope through bilateral channels. This would help China establish itself as a friendly and responsible country, and would be a more pragmatic solution," he said.

A no-show by China could not affect further proceedings by the tribunal, according to UNCLOS. A binding ruling would probably be handed down in the first half of 2016, Storey said.

"The real reason why China has refused to participate is because it knows that its expansive claims in the South China Sea are incompatible with UNCLOS and that it would lose," Storey said.

"If the court rules in favour of the Philippines it will be a legal and a moral victory for Manila. The ball will then be in China's court to justify its maritime claims under existing international law."

However, Euan Graham, director of the International Security Programme at the Lowy Institute in Sydney, cautioned against describing this as a "victory" for the Philippines.

"The Philippines may, and probably should, get a favourable ruling overall. But we should not forget that the court will also take China's historic rights into account," he said.

Although the final ruling of the court would not be enforceable, "the embarrassment value to China should not be under-estimated", Graham added.

Experts said despite tension in the South China Sea, Beijing and Washington had brought their wrangles under control.

"China's navy chief just sent a verbal warning to his US counterpart. China would only use force to 'teach a lesson'

to small countries, it would not dare challenge the US' military capability," Sun Yat-sen University military expert David Tsui said, adding that not offending the US had been a maxim of Mao Zedong .

"Even before the Cultural Revolution, the PLA gave nearly 500 'serious warnings' to the American military when its aircraft and warships frequently entered China's territory in sea and air, but took no military action."

Beijing-based naval expert Li Jie said Wu and Richardson's video call indicated both sides were keen to stick to their crisis-control mechanism.

A US official said the naval chiefs had agreed to maintain dialogue and follow protocols.

Scheduled port visits by US and Chinese ships and planned visits to China by senior US Navy officers remained on track.

"None of that is in jeopardy. Nothing has been cancelled," said the official.

Govt announces more sops to prop up falling exports: With the country's exports showing no signs of revival in the face of continuing slowdown in global demand, the Government has announced additional sops for exporters.

The Commerce Ministry has expanded the current incentive schemes for exporters to include more products, greater number of markets and, in some cases, has also increased the incentive amount, according to an official release.



The additional items that have been included in the Merchandise Exports from India Scheme (MEIS) are textile items, pharmaceuticals, surgical, herbals, project goods, auto components, telecom, computer, electrical and electronics products and railway transport equipment and parts.

"The current revision introduces 110 new tariff lines and increases rates or country coverage or both for 2228 existing tariff lines," an official release circulated on Friday said.

Items that will be now incentivised at a higher rate are mostly from the small sector and include industrial machinery, IC Engines, machine tools, parts and machinery for dairy, agriculture, food processing, textiles, paper, hand tools used in agriculture /horticulture/forestry, safety razors, blades, all type of locks, reinforced safes, strong boxes and

doors, safe deposit lockers, flexible tubing , pilfer proof caps for packaging and bicycle parts, the release said.

Exports in April-September 2015-16 fell 17.63 per cent to \$ 132.93 billion compared to the same period last year.

The decline was spread across all major sectors such as petroleum goods, ready-made garments, electronics, engineering goods, gems & jewellery, chemicals, leather and agricultural products.

U.K. to Double Offshore Wind Capacity:

RenewableUK, the trade association representing the wind industry, says the announcement by RWE Innogy of new project partners and investors for the Galloper offshore wind farm off the coast of Suffolk, U.K., demonstrates the robustness of Britain's world-leading offshore wind market.

UK Green Investment Bank (GIB), Siemens Financial Services and Macquarie Capital, join RWE Innogy in becoming 25 percent joint equity partners of the 336MW Galloper Offshore wind project. The deal will enable construction of the project to commence in November 2015.



The news follows the announcement on Wednesday that Dong Energy has made a final investment decision to build Walney Extension offshore wind farm off the coast of Cumbria.

The confirmation of the two projects, which have a combined capacity of nearly one gigawatt, means that the U.K. now has more than 10GW of offshore wind capacity either operational or under construction, or with financial support fully secured.

This consolidates Britain's global lead in offshore wind, and will double our current operation capacity of just over 5GW. 10GW of offshore wind will generate sufficient electricity to meet the needs of more than seven million British homes.

RenewableUK's Director of Policy for Economics and Regulation, Dr Gordon Edge, said "The U.K. is the number one destination for offshore wind investors. This week's two major announcements of offshore wind projects achieving financial close, securing billions of pounds in investment, show that it remains an attractive place to do offshore business.

"The Government's advisory body, the Committee on Climate Change, is now recommending we install 1-2 gigawatts of offshore wind a year throughout the 2020s to meet our carbon reduction goals, so we could reach as much as 30GW by 2030. The CCC says offshore wind is set to become

cheaper than gas during the next decade, so it offers excellent value for money in terms of keeping bills down. We're also generating jobs, with 13,000 people already working in the industry - that could increase to 44,000 in less than 10 years.

"However, if we're to continue to deliver ambitious offshore infrastructure projects throughout the 2020s, we need a clear plan from government stating how much offshore wind capacity it wants over the next decade. We've had some encouraging signals so far, but we need details of how the financial framework is going to work for offshore wind to deliver at scale, as a key part of the Government's industrial strategy."

Ship Operating Costs Set to Rise: Vessel operating costs are expected to rise in both 2015 and 2016, according to the latest survey by international accountant and shipping consultant Moore Stephens. Crew wages,



repairs and maintenance, and drydocking are the cost categories likely to increase most significantly over that period.

The survey is based on responses from key players in the international shipping industry, predominantly shipowners and managers in Europe and Asia. Those responses revealed that vessel operating costs are expected to rise by 2.8 percent in 2015 and by 3.1 percent in 2016.

Crew wages are expected to increase by 2.4 percent in 2015 and by 2.3 percent in 2016, with other crew costs thought likely to go up by 2.0 percent and 1.9 percent respectively for the years under review. The cost of repairs and maintenance is expected to escalate by 2.3 percent in 2015 and by 2.4 percent in 2016, while drydocking expenditure is predicted to increase by 2.6 percent and 2.3 percent in 2015 and 2016 respectively.

The cost of hull and machinery insurance is predicted to rise by 1.8 percent and by 1.9 percent in 2015 and 2016 respectively, while for P&I insurance the projected increases are slightly lower - 1.7 percent and 1.8 percent respectively.

Expenditure on spares is expected to rise by 2.3 percent in 2015 and by 2.2 percent in 2016, while for stores the corresponding projected increases are 1.8 percent and 1.9 percent. The increase in outlay for lubricants, meanwhile, is predicted to be 1.1 percent and 1.7 percent in 2015 and 2016 respectively, and that for management fees 1.7 percent in each of the two years under review.

The predicted overall cost increases for 2015 were highest in the offshore sector, where they averaged 3.4 percent against the overall survey increase of 2.8 percent. For 2016, it was the tanker sector which was predicted to experience the highest level of increases - 3.4 percent compared to the overall survey average of 3.1 percent. The container ship sector, meanwhile, was not far behind at 3.3 percent.

One respondent said, "We expect costs generally to increase as charter rates creep up, although they will probably lag behind the latter. With charter rates generally low at present, the provision of services to the shipping industry needs to remain competitive, with suppliers reluctant to put up charges too soon for fear of losing business."

Elsewhere it was noted, "Future operating costs will increase exponentially due to innumerable new regulations, the low competence of seafarers, the high bargaining power of the oil majors, stricter rules regarding maintenance and repairs carried out in ports, the advent of more sophisticated onboard machinery, and increasing consolidation in the marine equipment and services sector, resulting in more bargaining power for fewer, larger companies."

Another respondent highlighted the fact that ship managers are under increasing pressure, pointing out, "Overcapacity within the markets is driving charter rates down, owners are facing higher costs to finance vessels, and operators are fighting much harder for cargo. Ship managers are now required to look after much more for the same management fees."

Another still emphasized, "Due to the high financial costs involved in operating a newer world fleet, and to an over-supply of tonnage and depressed freight markets, there will be increasing pressure to maintain or freeze operating cost levels in order for owners to remain competitive. This is likely to change between 2017 and 2020, however, with significant capital expenditure required for regulatory compliance."

One respondent predicted, "Crew costs will continue to be the main area of increased operating expenditure," a sentiment echoed by another, who referenced the effect of the Maritime Labour Convention 2006 in this regard to support this supposition. Elsewhere, however, it was noted, "Crew costs will remain stable because the workforce will always be recruited from cheap countries."

Staggering cost increases due to redundancy in electronic navigation and communication equipment, and increased port dues, were among other issues deemed by respondents in the survey to be likely to result in an increase in operating costs.

Moore Stephens also asked respondents to identify the three factors that were most likely to influence the level of vessel operating costs over the next 12 months. Overall, the most significant factors identified by respondents were finance costs at 22 percent (compared to 21 percent in last year's survey) and competition also at 22 percent (up from 18 percent last time). Crew supply was in third place with 17 percent (down 3 percentage points on last time), followed by demand trends (down by one percentage point to 16 percent) and labor costs, unchanged at 13 percent. The cost

of raw materials was cited by eight percent of respondents (compared to 10 percent in last year's survey) as a factor that would account for an increase in operating costs.

Moore Stephens shipping partner Richard Greiner says, "The predicted increases in ship operating costs for this year and next compare to an average fall in 2014 of 0.8 percent in operating costs across all main ship types recorded in the recent Moore Stephens OpCost report. Nevertheless, the level of increases anticipated for 2015 and 2016 are low in comparison with many we have witnessed in recent years. Shipping has seen much worse, and prevailed. For example, many of the companies which endured a 16 percent rise in operating costs in 2008 are still operating successfully today.

"It is no surprise that crew wages feature near the top of the predicted operating cost increases for both 2015 and 2016, not least because of the entry into force of the Maritime Labour Convention 2006, which mandates the manner in which seafarers must be paid. For shipping, as for every industry, investment in good people will always be money well spent.

"Expenditure on repairs and maintenance, meanwhile, is expected to increase over the two-year period by the same aggregate amount as crew wages. Again, this is not a surprise. According to OpCost, repairs and maintenance expenditure was marginally down in 2014 on the previous year, attributable in part to world steel prices dropping to their lowest level in a decade during 2014/2015 and to disappointing freight rates. But things are likely to change. Steel prices are predicted to rise steadily over the next four years, there are realistic prospects of an improvement in the freight markets, and regulatory requirements are set to bite even harder. All these developments are likely to increase the industry's repair and maintenance bill and will doubtless impact, also, on drydocking costs, which are predicted to be the subject of some of the biggest increases in 2015 and 2016. Lube costs are also set to increase in 2016 on the back of recovering oil prices.

"In addition to traditional operating costs, the level of which can generally be predicted to a certain degree, shipping has other potential costs hanging over its head which are more difficult to budget. For example, ratification of the Ballast Water Management Convention has seemingly stalled at the finish line. It has more than enough signatories, but still needs slightly more than an additional two percent in terms of tonnage to get itself on the books. Whilst the ratification is tardy, nobody doubts that it will cost owners and operators a lot of money once the convention enters into force.

"Meanwhile, a government spokesman for the Marshall Islands recently characterised the IMO secretary-general as a 'danger to the planet' for his alleged failure to endorse more stringent curbs on the shipping industry's CO2 emissions. This is what Sherlock Holmes might have described as a 'three-pipe problem' - politics, gas and competition. It is not an unusual combination in shipping. In the end, however, it is likely to have an impact on the industry's operating costs, and there is no accounting for that."

Rare Cyclone in Arabian Sea Heads to Shore:

Cyclone Chapala, a storm gathering in the Arabian Sea, is heading for Yemen and Oman and may cause floods, landslides and infrastructure damage in countries that are ill-prepared for such weather, the U.N. climate agency said on Friday.

The tropical cyclone has strengthened very quickly in the past day and is expected to become a super-cyclonic storm in the next 24 hours, with sustained winds of up to 230km/h (143 mph), equivalent to a Category 4 hurricane.

It is expected to hit the coast on Monday (2.11.15) night.

"We do expect it will weaken before it makes landfall. It will probably be more on the lines of Category 1. But even so there will be very high gale force winds in an area that is just not used to seeing this," said Clare Nullis, spokeswoman for the World Meteorological Organization (WMO).

"The winds are a threat but we expect the biggest impact will



be from the very, very, very serious rainfall. I've seen some reports that the area might get the equivalent of more than a year's worth of rainfall in a couple of days."

Nullis said the WMO was not aware of a tropical cyclone ever hitting Yemen before, although a cyclone that hit Oman in 2007 had done several billion dollars' worth of damage and killed about 50 people.

The area of northern Yemen that is in the storm's path is sparsely populated, but the Omani port city of Salalah is likely to be heavily affected, she said.

Salalah is Oman's second largest city, with a population of about 200,000, and has a major container port managed by APM Terminals, part of A.P. Moller-Maersk

The winds are expected to slow to 150-160km/h just before the storm makes landfall, and then slow further to 100-110km/h.

The storm was caused by high sea temperatures and atmospheric conditions, but it was not clear if it was also caused by the El Nino weather phenomenon or by global warming, and if such storms might recur in future, she said.

"With climate change we're really heading into unknown territory. We can expect to see things happening in the future that never happened in the past."

Offshore Vessels Face Multi-Purpose

Future: MarEx spoke to Mike Sano, ABS Manager of Energy Development, to survey developments in the

offshore support vessel (OSV) scene.

What trends do you see in the OSV market at present?

The OSV sector is one of the most dynamic and interesting in the market. As energy needs increase and existing shallow water fields are exploited, much of the new offshore activity will be in deep water and ultra-deep water. This change in focus has impacted the OSV market considerably.

In the course of the last decade, OSVs have become increasingly sophisticated and technically advanced. Today, many OSVs are multipurpose vessels that have capabilities that far exceed those of the fleet only 10 years ago.

Specialized multipurpose designs carry out maintenance and repair on platforms, facilities, subsea pipelines, wellheads, and equipment. Today, OSVs are designed for inspection, repair, and maintenance (IRM) functions to support deepwater operations and are correspondingly equipped with larger accommodation spaces, heavy-lift cranes, helidecks, and streamlined bow forms for prolonged operation in harsh environments.

Today's vessels also are larger - many longer than 130m - and more powerful.

How are onboard systems changing? Dynamic Positioning (DP) systems are becoming much more prevalent on OSVs. In fact, the use of DP systems has expanded significantly across offshore assets over the last decade, not only in terms of the number of DP vessels in the global fleet, but also in terms of the range of applications for these systems and the advanced capability of DP technologies.

This is a very noteworthy trend and became a focus area for ABS, which undertook development of the ABS Guide for Dynamic Positioning Systems several years ago, providing an update in mid-2014. The guide provides optional notations and technical specifications that reflect current industry practice and use of DP technologies.

Another new development is the inclusion of LNG as vessel fuel for OSVs. While LNG as fuel has been accepted to some degree in Europe, it is a new focus for the U.S. industry. ABS has been involved with this in the OSV market for about five years. In fact, earlier this year, Harvey Gulf International Marine introduced the first LNG-fueled supply vessel, which was classed by ABS, to the Gulf of Mexico (GoM). Shell contracted the Harvey Energy, a 302ft unit, to transport equipment, drilling hardware, fluids and other supplies to Shell's deepwater operations in the GoM. The Harvey Energy sets an example for future vessels, with its three dual-fuel Wärtsilä engines that can be powered by 99 percent-LNG fuel and can be operated for approximately seven days before refueling.

Diesel-electric engines are also gaining ground. These can be used to provide the right level of power to the vessel when it needs it, which results in more efficient operations. So the operator can run fewer engines because diesels like to run fully loaded - they are more efficient that way.

Earlier vessel designs had a direct-drive diesel engine powering the propulsion. With a diesel-electric design, all of the propulsion is electric. As a result, the engines can produce energy as efficiently as possible while also having access to additional power when needed. Also, the response time, in relation to the variation in power demands, is significantly shorter, which allows for faster transfer of power to the ship.

Are there interesting vessels that exemplify the trends

you see? In the past few years, we've seen a lot of push into deeper and more remote areas. As a result, a lot of big pipelaying assets were delivered to satisfy anticipated demand. One of those was the Saipem Castorone. An ABS ice-classed pipelay vessel, the Castorone is the largest pipelayer in the world, with a handling capacity of more than 500 m/hr of pipe and able to perform both S-lay and J-lay in deep water. It can handle up to 48-inch diameter pipe and is fitted with a knuckle boom crane with a safe working load at a 30m outreach at 600 tons and a safe outreach of 350 tons at 46m. The vessel also has two gantry cranes and is outfitted with a DP system.

With a growing population of subsea wells and corresponding subsea infrastructure, subsea support vessels have grown increasingly important to the offshore industry. Island Offshore, a joint venture company, is set to deliver the Island Venture in November of 2015. This state of the art, ABS Classed, LOA 159m X-bow vessel, features three moon pools, a 400 ton active heave compensated knuckle-boom crane, large accommodations, helideck and is outfitted with two ROVs. Upon delivery, it will be the largest offshore subsea construction vessel constructed to date.

Are there regulatory changes driving change? One recent development in regulatory changes is the official adoption on 15 May 2015 by the IMO of the final remaining parts of the International Code for Ships Operating in Polar Waters, aka, the Polar Code. Because the decision was made that the Polar Code will apply to domestic as well as international voyages, all vessels working in Arctic or Antarctic areas have to comply. So OSVs carrying out resupply, safety standby or other functions have to adhere to the new requirements.

The Polar Code requires vessel operators to perform an assessment of intended activities, taking into account a variety of factors, including the anticipated range of operations as well as the environmental conditions and hazards the vessel could face. Voyage planning exercises and hazard identification assessment will be used to create a mandatory Polar Waters Operations Manual, which has to be kept onboard as a resource for the crew.

OSVs also will be required to carry a mandatory Polar Ship Certificate (PSC), which is reviewed by port and coastal States and is used in assessing a unit's capabilities and limitations. In addition to verifying that the vessel complies with the Code's relevant requirements, the PSC lists key information about the ship, including its Ice Class, the Polar Service Temperature and any defined operational limitations.

To help OSV designers and owners select an appropriate PST, ABS has compiled a substantial amount of temperature data and guidance in the latest revision of the ABS Guide for Vessels Operating in Low Temperature Environments, which was published in October of this year.

Do you expect further changes in the future? Technology advances are pushing activity into new and challenging areas, creating a stronger demand for multipurpose high-specification OSVs. And the limited availability of purpose built workover and intervention rigs is changing the global OSV demand profile such that OSVs are becoming the vessels of choice for operations that previously were carried out by units in a different market segment.

Right now, the low oil price is impacting construction, but when the economics recover, or possibly even before then, I think we will probably see more high-spec pipelay vessels enter the

market, some of which will be designed specifically to work in harsh environments.

The important message about the future is that the trend toward more sophisticated and multifunctional units is set to continue. As that transformation takes place, ABS will continue to anticipate the required guidance that will help owners and operators as new units take on an ever expanding role in demanding operating environments.

ROV Operated Hands-Free by Pilot Ashore: Oceaneering has successfully piloted a remotely controlled vehicle (ROV) from shore via satellite link. The demonstration took place in the Gulf of Mexico with one of the company's Nexxus ROVs on board Oceaneering Intervention IV.

The data/video communications technology used was originally developed to aid in diagnosing faults offshore by technical support personnel onshore. The technology has now been further developed to include the ability to remotely pilot the ROV. With remote piloting, an infield high bandwidth wireless link or satellite link is used so that an ROV can be piloted on an offshore vessel from another remote location. Subject matter experts or other pilots can be linked-in in the event of highly complex processes or technical procedures that require special knowledge.



Remote connection technology allows the use of multiple virtual connection technologies and potentially creates cost savings opportunities such as reduction and/or elimination of second shift crewing for low intensity operations, says Oceaneering.

The demonstration also included an essentially hands-free operation method of piloting, whereby the pilot was able to "fly" the ROV with a command-based system involving automated steps, instead of using the traditional joystick. Using video machine vision technology, the video processing software analyzes video and sends the ROV control system positioning data from the video to control the thrusters and move the ROV. Operators will now be able to use this technology to automate the ROV flight and perform tooling tasks faster and safer, thereby improving productivity and reducing the chance of downtime.

"Computer-aided piloting is much more efficient than a human pilot can achieve unaided, which in turn reduces the potential damage to tooling, manipulators, and most importantly, the customer's subsea assets," said Kevin Kerins, Senior Vice President, Remotely Operated Vehicles (ROV).

While both technologies were used at the same time during the demonstration, either technology can be used independently. However, pre-programmed automated step piloting eliminates latency problems associated with operating over a satellite link.

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“Maritime Group” knows as to what we are, not forgetting that we are here to share our valued flow of thoughts, inter-changed with quality of expression exchanged, is to arrive at a QUALITY consensus, since “MARINE NEEDS A MULTI-DISCIPLINARY APPROACH - Do something instead of killing time or else, time will be killing you.”

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