



All India Maritime Pilots' Association



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President's desk
Capt. Gajanan Karanjikar, President - AIMPA

Pilot Personality of the Month

Vessel Traffic Services and Pilotage –
supporting safe navigation

Legal Dynamics Of Pilot Ladder Safety

Revamping Maritime Pilot Services In India

Safe Passage

I Rescued My Ships Pilot



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From The

President's desk

Capt. Gajanan Karanjikar
President- AIMPA

Dear Readers,

I am very pleased to report that "SAMIPTA" has attracted as many as 157 teams to register and commit to submit a paper by the 30th of June. As outlined in the May issue, SAMIPTA is a research competition amongst teams of students from various Indian maritime training institutes initiated by AIMPA, and supported by the IMU. The objective set for the research is "to find innovative ideas to mitigation risk when using pilot ladders during pilot transfers". The thinking behind this competition was of wanting to tap the sheer creativity and ability that young minds possess. An ability to think out-of-the-box even when knowing that most have not even been to sea and may not even have participated in an actual pilot transfer! AIMPA extends its thanks to FOSMA, MASSA, HIMT, PTR Holland for sponsoring this competition and for their generous contribution towards the prizes and mementos to be awarded to participants.

I am also glad to inform readers that efforts to set up an official website for AIMPA are bearing fruit. You are invited to visit www.aimpaofficial.in and enrol yourself for being notified - in about 20 days – (by when the website is expected to be up and running). AIMPA extends its gratitude to the several pilots who contributed to fund this work since AIMPA is an organisation for pilots and of pilots. The website will enable the maritime pilotage world and the public in general to more easily interact with AIMPA and vice versa. The website has several useful features including How to become a Pilot, AIMPA journal, Notices to pilots, membership registration as well as a chat facility. There will also be a tab for members to confidentially register reports on non-compliant pilot ladders and pilot transfer procedures.

AIMPA's Executive Council also had its regular meeting in June - on Zoom. All members participated in spite of their busy schedule. Resolutions were presented to open the memberships through a linkage to AIMPA's bank account. Membership details will be opened up soon for everyone to know and benefit from.

Last, but not the least, I am delighted to publish here a short story of a true incident from Capt. Nasir Khan, a Harbour Pilot from Pakistan. It is being published as received, without any editing or correcting. I felt that any editing would take away from its beautiful simplicity and its message of heroism and humanity. The author has illustrated his story too. With simple pictures that I found quite charming. I really enjoyed this story and am sure our readers will too.

Best wishes.

Capt Gajanan Karanjikar

President- AIMPA

All India Maritime Pilots Association

Email:aimpaofficial@gmail.com

Pilot Personality of the Month



Capt Shailendra Kohli



Left right leftleft right left...."this was my alarm for waking up every day remembers Capt Sailendra Kohli. Born at Allahabad to a family of an Army officer cpt Kohli had a happy, nomadic childhood travelling across the length and breadth of India.

He says "I was fortunate to have stayed in 9 different cities in the first 18 years of his life ! I have very fond memories of days spent in the Cantonments of some of the remotest places in the country . 'Traveling and meeting people from different states and backgrounds enriched me intellectually as well as emotionally,,

Studying in KVs and convents and public schools for an average of 2 years each, taught me valuable life skills of adaptability and resilience.

After doing his Intermediate, he joined the Merchant Navy as a cadet in the Ratnakar Shipping Company in 1975 . He remained with the company for13 years .In 1988 he joined the Mumbai Port Trust,(offcourse Bombay port trust then infact better known as BPT in public domain), as a probationary pilot from where he retired as Deputy Conservator after serving 29 long years.

Capt Kohli married Kiran in 1984 and they have two beautiful children, both are Engineers by profession. Their daughter Namrata is married and works with Facebook in Singapore. Their son, Amar ,is in Canada and works for RESMED.

Post retirement he is working as a consultant with TATA Projects in the construction of MTHL , I enjoy my role as consultant too and feel privileged to share my expertise and experience with those who have use for it.'

Vessel Traffic Services and Pilotage - supporting safe navigation

Jillian Carson-Jackson, M.Ed., FNI, FRIN



It is with some dismay that I look at all the technology and tools available to the modern navigator, and yet, despite it all, the irrefutable fact remains that ships continue to run aground, have collisions and allisions.

Humanity has been plying the seas since time immemorial, and the design of ships has gone through many modifications to enhance safety. Ships are specialized tools that have been honed to the 'edge of perfection' - strong, versatile, efficient...and yet?

The case studies of shipping accidents in confined waters, departing/entering port and in navigationally complex coastal areas are too numerous to mention, and there seems to always be a common point – the human element. Why is that?

Just for a moment, let's set aside all the technical equipment available to the bridge crew and recognize the ship's crew, the maritime professionals, are all trained in their respective roles. And, then let's look at the additional human resources available for specific

operations as the ship enters or departs the port, such as Vessel Traffic Services (VTS) and pilotage. These two services have a synergy, working with the same goal of safe, efficient and pollution free transits. Both are identified as risk mitigators, and are carried out by qualified, trained personnel.

Two services working towards the same goal

Pilotage has a very long history. There are 4 references to pilots in the Bible; Homer mentions the pilot in the Iliad. Most coastal states have laws and regulations covering pilotage, and the IMO recognizes the importance of pilotage services, including safety for the pilot transfer and training for pilots (more on that later). The role of a pilot has been defined as “assisting the master of a ship, by providing local knowledge of navigational and operational matters combined with specialist ship-handling experience.” In the Australian Navigation Act 2012 a pilot is defined as 'a person who does not belong to, but has the conduct of, a vessel'.

VTS is a relative newcomer to the scene, with its development from early coastal radar in 1948 (post WWII). The initial implementation of Port Advisory Service has evolved to the current service recognized by the IMO in the Safety of Life at Sea (SOLAS) Convention, Chapter V, Regulation 12. The current IMO resolution A.857(20) (1997) provides further guidance on VTS. Over the years the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) has been instrumental in working to define VTS technical, operational and human aspects. Recognising the changes in VTS over the decades, the IMO is in the process of finalizing a revised resolution A.857(20). The revised resolution is now awaiting final approval from the Assembly. The existing Resolution defines VTS as “a service implemented by a Competent Authority, designed to improve the safety and efficiency of vessel traffic” while the revised resolution builds on this “a service implemented by a Government with the capability to interact with vessel traffic and respond to developing situations within a vessel traffic service area to improve the safety and efficiency of navigation, contribute to safety of life at sea and support the protection of the environment”.

Here are two different services available (in many cases, mandated) to assist in the safe transits of vessels, both services with highly trained professionals working towards the same goal.

Risk Mitigation

We are well versed in risk – the probability that something 'bad' will happen, combined with the consequences of it happening – and recognize that it is impossible to 'eliminate' risk. There are, however, measures that can be put in place to 'mitigate' risk – either minimize the

chances that something will happen, reduce the consequences if it does happen, or a combination of both. Both Pilotage and VTS are identified as risk mitigators.

Specifically, VTS is identified as an 'aid to navigation' “A device, system or service, external to vessels, designed and operated to enhance safe and efficient navigation of individual vessels and/or vessel traffic” (IALA Dictionary). IALA Guideline 1018 – Risk Management (edition 3, May 2013) – provides an overview of the risk review and assessment process to be undertaken with regards to the provision of VTS and aids to navigation (AtoN) (as identified in SOLAS V, Regulation 12 and 13). The methodology presented in G-1018 is similar to the Formal Safety Assessment (FSA) methodology as recommended by the IMO (MSC/Circ.1023/MEPC/Circ.392). The IMO SOLAS Regulations referred to indicate the establishment of VTS and provision of AtoN where the 'volume of traffic and/or the degree of risk justifies the provision of such services'.

While pilotage and VTS are, in their own right, individual mitigation measures they provide even stronger mitigation when working effectively together. This was highlighted in the Independent safety issue investigation into Queensland Coastal Pilotage carried out by the ATSB. The report noted that [REEF]VTS was under-utilised because many pilots “are not fully aware of the service's ship traffic monitoring capability and limitations, and its value as an additional 'bridge resource’”. (Reference:, ATSB report MI=2010-011 No. 282)

Training and assessment

Prior to the Manila Amendments, the IMO STCW 1995 included a specific reference to Pilot and VTS training in Resolution 10: “the

International Maritime Organization to consider developing provisions covering the training and certification of maritime pilots, vessel traffic service personnel and maritime personnel employed on mobile offshore units for inclusion in the 1978 STCW Convention or in such other instrument or instruments as may be appropriate.”

Based on this, and the outcomes of the 8th IALA VTS Symposium (Rotterdam, 1996) IALA developed a recommended training and certification regime for VTS Operators. Initially called 'V-103' the recommendation and guideline on VTS Training has been revised under the current IALA documentation structure, with the revised documents agreed by the VTS Committee to be forwarded to the IALA Council for approval at their next session in December 2020.

The internationally agreed VTS training regime includes a series of model courses and an accreditation process of the training organisations with approval of the training programs, as provided in the related IALA guidelines (specifically, Guideline 1014).

Pilotage has similarly developed training documentation, through the publication of the IMO Resolution A.960(23) with recommendations on training and certification, as well as operational procedures, for maritime pilots other than deep-sea pilots.

The STCW Manila Amendments revised Resolution 10, removing the reference to VTS and pilot training, noting the training regimes had been developed.

Cooperation enhancing safety

In the conclusion of his dissertation on the interaction between pilots and VTS Andreas

Bach notes that there are issues of trust and competition between the two services, which may seriously degrade the functionality and degree of cooperation between them. Combined training would save time, money, and alleviate many of the cooperation issues experienced in so many marine incidents.

There is significant value in cooperative training, where procedures can be developed to support conscious cooperation between VTS Operators and Pilots. While the pilot is focused on the safe navigation of the vessel they are piloting, the VTS is focused on the safety of the waterway in which the vessels are transiting. The two working effectively together have proven results, for example:

- Monitoring of continuous radius turns in critical areas (i.e. procedures implemented following the grounding of the Vasco de Gama in South Hampton, UK)
- Close track monitoring of vessels proceeding through narrow channels using pre-agreed reference points (i.e. procedures for monitoring vessels in the Hay Point channel in Queensland, Australia)

In The Netherlands the Dutch pilots work closely with VTS, with the introduction of Shore Based Pilots in the VTS centre. SBP-VTS have special training with examinations overseen by the VTS authority. In most ports a Chief Pilot is stationed at a VTS centre 24/7 with pilot overseeing pilotage operations and discussing operational matters with the VTS.

Conclusion

“... the fact that VTS has the overall view of the area and that the pilot is physically present on the ship is deemed to be a circumstance that makes the two services complementary... both

parties are perceived to be service organisations with the intention to serve maritime traffic..."

**-- Andreas Bach, WMU, 2009
(Dissertation)**

The opportunity to support the 'shared mental model' with clear procedures for sharing of information between the VTS and the Pilot is increasing – and this is an opportunity that should be fully exploited. To do so requires recognition of the areas of expertise of both professions and identification of coordinated

operations, always with the focus on the common end goal – safe, efficient and pollution free transits.

It would seem logical that cooperation is key to a positive outcome. If pilots and VTS personnel are given the opportunity to train together in advance then, when difficult situations arise, we will have allowed them a reasonable chance to have the tools and the trust to work smoothly together and realise the mitigating power of a coordinated approach.



Jillian Carson-Jackson

Jillian Carson-Jackson
President of Nautical Institute London.
Managing Director JCT consulting.

Over 30 years of experience in the maritime industry, she is an experienced Maritime Technical Advisor, Presenter and Chairperson with a passion for communications technologies, education and training, and vessel tracking. Skilled in Simulation Training, Vessel Traffic Services, Operations Management, Government, Emergency Management, and International Shipping. IALA expert for VTS, Aids to Navigation (AtoN) and E-navigation. she has a passion for diversity and inclusion, including empowering women in maritime. A Fellow of both the Royal Institute of Navigation and the Nautical Institute, she is currently the President of the Nautical Institute. Strong business development professional with a M. Ed focused in Adult education / CBT and curriculum development from University of Toronto.

Legal Dynamics Of Pilot Ladder Safety

Esham Karanjikar



INTRODUCTION

AIMPA in its previous issues has discussed the need for compliance with the Convention of Safety of Life at Sea and established standards which a Pilot Ladder must adhere to whilst also highlighting the recognised problems of a Pilot Ladder, citing the 2017 IMPA survey. In this article I aim at bringing to light certain legislations that focus on establishing liability and ensuring safety, as I draw attention to the inefficacy of Indian legislations in protecting, compensating or even establishing such clear liability. This article is not authored as means of rebelling, but more as a critique on the legal state of Pilotage in India as I suggest solutions to overcome such problems through citing examples of how the UK, solely because India is a part of the commonwealth and implementation becomes easier, enacted legislation to ensure compliance with accepted International Standards.

WHETHER EXISTING LAWS ESTABLISH LIABILITY AND PROTECT THE PILOT AGAINST THE PERILS OF UNSAFE PILOT LADDER?

Before we understand liability in the context of injury to the Pilot, we must understand

how liability works concerning pilotage at sea. The Common Law has identified liability at sea to be threefold, the liability of the pilot, liability of the port or harbour and liability of the ship owners. Essentially, almost in all jurisdictions, a pilot's role is merely advisory making the Master completely in charge of the vessel. Even in the case of the recent Suez Canal blockage, the SCA rules which govern the passage and pilotage through the Canal have also defined the role of a pilot as merely advisory and that the Master and the shipowners are liable for all damages.

EXISTING LAWS THAT GOVERN LIABILITY CONCERNING LOSS OF LIFE AT SEA

Article 94 of the United Nations Convention on the Law of the Sea (hereinafter referred to as the "UNCLOS"), enlists, that the master, crew, and officers on each vessel be fully conversant and observant of the regulations on the safety of life at sea, as a duty of the Flag State. The UNCLOS further emphasizes that every flag State shall conduct an enquiry into any incident of casualty involving nationals of another state. Article 146 of the UNCLOS reiterates that all States are to ensure that all necessary steps are taken to protect human life concerning all other existing

conventions and laws concerning this issue.

While International Laws remain silent on establishing liability, as such, the United Kingdom has revolutionised Maritime Safety laws, Article 94 of the Merchant Shipping Act, 1995 (hereinafter referred to as the "MSA 1995") classifies a "dangerously unsafe ship" as a ship which is:

- a) unfit to remain at sea without serious danger to human life, or
- b) unfit to go on a voyage without serious danger to human life.

A ship is considered to pose danger to life if:

- a) the condition, or the unsuitability for its purpose, of—
 - i. the ship or its machinery or equipment, or
 - ii. any part of the ship or its machinery or equipment;
- b) understaffing;
- c) overloading or unsafe or improper loading;
- d) any other matter relevant to the safety of the ship;

Now, this particular provision can be given a very interesting interpretation, Article 98 holds the owner and Master liable in case of a 'dangerously unsafe ship'. To take a liberal interpretation, essentially, any equipment on a ship is vital either as a life-saving appliance or an appliance vital to the ship's functioning. If such a piece of equipment were not up to the standards set, they would ultimately result in threatening life at sea. In fact, with the enactment of Article 98, the United Kingdom satisfies its duty under Article 146 of the UNCLOS. The civil nature of such a liability is 50000 Pounds and can extend to imprisonment up to two years.

We must discover the criminal nature of such liability. It is safe to make a logical inference that such liability arises due to the negligence of the shipowner and/or the Master. A breach of provisions of the MSA 1995 relating to dangerously unsafe ships, which might result in loss of life, will give rise to a prosecution for manslaughter by criminal negligence involving a breach of duty, if the elements of the offence, as stated at common law, exist¹. The principles of criminal negligence were examined in *R v. Adomako*² wherein Lord Mackay of the House of Lords held that the law of negligence only comes into play when it is established that the defendant had a duty of care toward the victim and due to that breach of duty of care the victim has been injured or lost their life. Gross negligence becomes criminal when the breach of duty of care is serious, which has to be determined based on the extent to which the duty was breached. Therefore, using principles and tests developed in Common Law one can prosecute the ship owners for involuntary manslaughter due to breach of duty of care.

It is not that simple in the case of a corporation, it has been difficult to convict the corporation itself for criminal negligence³, unless it is found that the individuals who can be identified as the 'directing mind and will' of the corporation are themselves guilty of gross negligence, as was shown in *The Herald of Free Enterprise* case⁴. In such cases, only the Master, officers and crew were responsible for any mishap. If an entire shipping company is to be prosecuted for such negligence, it involves the identification doctrine. This doctrine is quite

¹Mandreka - Sheppard, A., 2013. MODERN MARITIME LAW VOLUME 2: MANAGING RISKS AND LIABILITIES. 3rd ed. New York: Informa Law from Routledge, pp.408-420.

²[1994] 3 All ER 79.

³*Supra*, note 13

⁴*R v East Kent Coroner ex p Spooner and Others* (1989) 88 Cr App R 10.

well established in the Common Law, it is used to identify the persons in the company who make the decisions and are commonly described as the 'brains and nerve centre' of the company⁵.

Applying these established principles and existing premises set up in this paper previously, one can deduce that, it is the ship owner's responsibility to ensure that the vessel is compliant with existing provisions of Domestic and International Laws. This is a duty of care that the ship-owners owe to the pilot and anyone using any equipment on the vessel. Non-compliance with any provision of SOLAS or domestic regulations and laws emphasizing SOLAS regulations is a breach of duty of care. Many times, such a breach of duty of care has resulted in the pilot having fatal accidents, all non-complying vessels are, thus, liable to be prosecuted for criminal negligence.

The Indian Penal Code, 1860 (hereinafter referred to as 'IPC') also under Section 304 penalises negligence that causes death. Even though there is a sparsity of rulings on matters of liability in case of injury or death of the pilot, the Bombay High Court had given a very interesting ruling in a case, which is a tangent to the present issue. In *M.V. Kew v. Finolex Industries Ltd.*⁶, the prime issue discussed was, 'whether a plaintiff could maintain an action only for recovery of pure economic loss independent of physical damage'. It was the case of the plaintiff, who provided pilotage services, that due to the negligence of the defendant's vessel, two tug boats, aiding the vessel in the process of berthing, were damaged after the vessel grounded. Although the ruling of the court was against the plaintiff, the court emphasised the basic elements of negligence being the

existence of a duty of care and foreseeability. The court reaffirmed 3 elements to establish such negligence, laid down by Lord Denning, on part of the ship-owner, amidst a rather lengthy debate in distinguishing 'strict' and 'vicarious' liability, these elements are:

1. Nature of hazard, if the hazard is insignificant and inconvenience or damage caused is also bleak then it is not necessarily worthy of determining who is at fault.
2. If claims for loss were permitted for this particular hazard, there would be no end of claims. Some might be genuine, but many might be inflated, or even false.
3. The risk of loss should be suffered by the whole community who suffer the losses owing to such a hazard.

It is well understood that the hazards of an improperly rigged or ill-maintained pilot ladder are faced by the entire community of pilots. Negligence may take either of the two turns, the liability in case of an improperly rigged ladder may restrict itself to the Master and the officers and cases of faulty and ill-maintained ladders or transfer arrangements, in general, may invoke a vicarious liability.

It is an argument that I put forth after analysing several domestic legislations, as I take inspiration from foreign Legislations, India is far behind on having an effective legislation. The Merchant Shipping Act, 1958 is inadequate in protecting a pilot boarding the vessel, India fails in enacting provisions to ensure stricter and more effective inspection checks. In the entire legislation, if one were to search, they would not find a mention or even a classification as to when a ship can enter safely and when can it not, based on a check of safety appliances on the vessel. Sure, certain provisions exist in the

⁵ *Supra*, note 13

⁶ (2014) 4 AIR Bom R 639

Act that lay down the procedure for a vessel carrying hazardous cargo but there exists nothing in the Act, that labels the ship as a “dangerous vessel” on account of not maintaining life-saving appliances.

EXISTING LAWS THAT PROTECT THE PILOT AGAINST THE PERILS ON THE JOB

Let us understand a concept of a hazardous workplace, and understand the rights of workers concerning workplace safety in the International and Common Law spheres. The International Labour Organisation (hereinafter referred to as the 'ILO') sets forth two Conventions to look over Occupational Safety for workers in hazardous working conditions, namely, Promotional Framework for Occupational Safety and Health Convention, 2006 and Occupational Safety and Health Convention, 1981 to be a guiding light for member states to develop national policies and programmes to help promote safety on the job in their respective jurisdictions.

When it comes to pilotage, any Pilot Transfer Arrangement equipment, has to be maintained to guarantee basic safety on the job for the Pilot. Article 23, paragraph 1 of the Universal Declaration of Human Rights (hereinafter referred to as 'UDHR') states “Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment.” The right to work in 'just and favourable conditions' can be liberally interpreted to give meaning to, not only a part objective of the ILO but also, occupational safety being an affirmed human right. Every pilot ladder that is not compliant with SOLAS endangers the human right of so many others

using that equipment as a part of their everyday job.

India has had a tremendous development in its Labour Laws when it comes to establishing a duty of care towards the employees. Section 7B of the Factories Act, 1948 is a testament to the fact that employers in India have a duty towards providing safe and secure work premises to their employees that pose no risks to their health and their well-being. Even though existing legislations remain ambiguous on a duty of care owed to those outside of work, there is a Draft Occupational Safety Code that is in the making. This Code would be India's attempt to fulfil its duties as an ILO Member State and bring about change in workplace safety. Indian legislature has, however, been a huge ignoramus in terms of compensation to be given to a pilot if they were to injure themselves or die on the job. Essentially, the Employee's Compensation Act, 1923 is what provides for compensation to be given to employees, in India a pilot is an employee of the port. Therefore, logically, upon studying the Act, under the provisions of Section 3 and 15, the port should provide for compensation in case of mishaps per the provisions of Section 4. However, the Act, in its definitions provided for under Section 2 does not include Pilots, the Act defines a “seaman”, “employee” and “master” but leaves “pilot” out of all three definitions. It is a very sad state of affairs when it comes to pilots getting compensation in India.

An observation that can be made from the various domestic laws existing is that, although all of them echo the same message, the interpretation that arises may differ, and is thus, rightfully, subjective. This, however, is dreadful when the bigger picture is taken into consideration, the lack of specific legislation to

protect the pilot is leeway for so many injuries and deaths on the job. IMPA throughout its safety campaign made itself heard, globally, that SOLAS regulations are not an option, however, lack of specific legislation has made it difficult for a Pilot to seek recourse and that is a violation of numerous rights. An important angle that needs to be delved into is the duty of care that the port owes to the pilot, the port is essentially who the pilot works for.

The port is also to be bound by these regulations, the Code of Safe Working Practices for Merchant Seafarers enacted by the UK is a sincere attempt at ensuring such safety, it emphasizes organisations appointing such safety officials who inspect, review, and advise on safety on board. All ports, according to their rules and regulations, check and inspect the vessel as she berths, even the cargo is inspected, this is done to maintain safety at the port and check the compliance of the vessel under other relevant laws of the country⁷. A safety official appointed by the port must conduct regular and timely checks of the pilot ladder, and only after such an inspection should a pilot be allowed to board the vessel. This has been laid down by the MSA 1958 under Section 299 by way of issuance of a safety certificate, however, specific documentation that records the condition of the pilot ladder on the ship would be far more effective in aiding such checks, this would be in furtherance of the Section 304, 305, 306 and 307 of the MSA 1958. Occupational safety is also a duty of the port to ensure that the vessel complies with the safety regulations in place, nowhere in the world should a 5000–50000-pound fine be equivalent to an employee's life. This duty to maintain a safe place at work, in this case, is two-fold, the

shipowner's, and the Port.

The reason the issue of Pilot Transfer Arrangements and Safety of Pilot has been long ignored by Governments is that the problem is not being heard by the Governments. The answer to increasing reporting to authorities is not unbeknownst, it is quite obvious, how would one propose to increase compliance, increase the weight of the consequences. If a ship falls within the category of a 'dangerously unsafe ship' it should not be allowed to the port, it should be detained, as has been suggested by certain Merchant Shipping Acts of many nations⁸. An alternative to increase the reporting of such non-compliance could also be conducting inspections of vessels as laid down by the SOLAS, the UK Code comes with certain checks that an inspector must inspect. While a loss of life of a pilot can lead to prosecution of criminal negligence, it is merely textual, training the pilot and this is the port's duty to only employ competent pilots⁹. Pilots are often under pressure to get the ship to berth in time and in perfect shape, a question that remains unanswered is what about the fear of termination or suspension for refusing to board a vessel with faulty PTA? Most jurisdictions have enacted their Labour Laws, reaffirming the right of an employee to refuse work in case of dangerous or unsafe workspace¹⁰.

⁸ *Supra*,

⁹ See, The Pilotage Act, 1987 and SCA Rules.

¹⁰ Occupational Safety and Health Act, 1990, Part V. Also see, Draft Code on Occupational Safety, Health and Working Conditions, 2018., Health and Safety at Work etc. Act, 1974, Section 9.

⁷ See, The Docks Regulations, 1988, Regulation 2.

CONCLUSION

Pilotage service is a dangerous yet, underappreciated professions in the World. Today, the pilot community stands at a crossroads with a generation willing to change and reform. A way ahead from this juncture would be to echo the problems of safety aloud, when it comes to human rights, one must not forget that it took two world wars and the deaths of millions, for the world to recognise basic rights that every human should enjoy. Many pilots stand deprived of their human right to work in a safe environment, a set of new rules and regulations would be an answer to reaffirm pilots of this right. Now this change could be of two types, one, an entire change in the system of PTA, and two, the adoption of legislation and conventions specific to pilotage and pilot transfer arrangements addressing safety concerns and establishing a liability. Other than IMO Resolution A960, stricter standards must be adopted concerning Pilot training and safety equipment. To conclude, nothing should matter more than preventing loss of life due to apathy, it is the actions we take in the dark that usually determine the light that the future sees, it is time to switch the lights on.



Esham Karanjikar

Research Fellow @Mark your presence and former intern at P-Legal
Aspiring Lawyer

He has been a part of 2 intra collegiate Moot Court Competitions, 3 National Moots and 1 International Moot. He was a winner @ the Army Institute of Law, Mohali's "Checkmate" National Criminal Law Moot.

His interests lie in Constitutional, Criminal, Income and Public International Law and passion for law comes from the numerous MUNs, debates, and theater performances that he has been a part of. He has recently co-authored a research paper discussing the concept of "fraternity" in Indian policies and it's constitutional nature, published in the Burnished Law Journal.

Apart from law he is a Hip-hop/R&B enthusiast.

Revamping Maritime Pilot Services In India

By Reshma Nilofer

Pilot, Syama Prasad Mookherjee Port, Kolkata



Maritime Pilotage is a service performed by qualified persons known as □Maritime Pilots□ (or □Marine Pilots□ or just □Pilots□). Pilots are considered to be an elite category of personnel by the community of seafarers. They are navigational experts for the port they serve at. They navigate, berth and sail out ships avoiding hazards and ensure the safety of the ship, the port and its installations. Pilots are required to board moving ships from small high-powered launches, often in rough seas. This is a physically demanding part of their job. It often involves climbing high ladders to access ship decks. The associated hazards and risks involved in these transfers should be better appreciated, understood and acknowledged by the industry at large!

1. Despite the high risks they face on a day to day basis in their job, their terms of employment by various ports do not provide a uniform pan-India standard of insurance cover as a matter of policy. By insurance, I mean both for loss of life and for injuries and incapacitation due to injuries while on duty. There is insufficient or disproportionate insurance for different pilots of different

ports in India. It must be understood that the level of risks remain the same irrespective of the port or the ships involved.

2. On similar lines as above point (1), ports must mandatorily provide their pilots with type approved and job appropriate Personal Protective Equipment and Gear. They may need the following but not limited to (in no particular order):

- Safety gloves (Polka dotted or anti slip or rubber coated or gripping type)
- Helmets which also protect the back of the head from impact. Tested for suitability for use along with the life jacket on, in water so that the effectiveness is not lost when the life jacket is in inflated condition.
- Anti-slip, light weight and steel toed safety shoes
- Inflatable, lightweight lifejackets with Crotch straps – with dual cylinders for buoyancy gas. With a position locating beacon.

All the above replaced/serviced or

supplied at regular intervals as agreed upon.

3. Marine Pilots in India need a system that will encourage the exchange of information with regards to incident reports and learning from them, points to ponder and improve upon and safety bulletins etc. This way ships can be put under rigorous monitoring with regards to non-compliances in rigging pilot ladders. The IMPA survey amongst member pilots (sadly, with little participation from India) came about with 18% non-compliant ladders while an individual pilot, Capt Arie Palmers working in the Netherlands maintains his own records with evidence. In a single calendar year, his records estimate a staggering 60% rate of non-compliance for pilot ladders! My own half yearly figure stands at 53% non-compliance starting Jan last year. Pilots in India hence need to establish a system for the proper recording and documentation of such incidents. So that they can read and learn from this database of reports and corrective measures. Not only incident reports with respect to ladders, we even need an assessment and report on human element and other factors which lead to every small incident that happens. Such basic safety management tools will greatly improve the safety of pilotage systems in our ports.
4. The employment terms of Marine Pilots must clearly and unambiguously provide them the right to refuse boarding ships for want of safe access to ships or of if they feel the inclement weather would be dangerous to manoeuvre in and near port area/installations or posed a danger to life, property or the environment. And their exercising this right must not cause them to

be subjected to any sort of disciplinary action. Pilots must have the right to judge and ascertain risk factor and if necessary, refuse boarding a ship if the ladder is found non-compliant or damaged or unsafe or uncertified.

5. Pilotage training mostly involves learning the nuances through on-the-job observation. Despite this, the need for a simulator-based training centre/facility is felt due to the fact that professions like this require sufficient amounts of practice. Many little details and procedures are learnt through practical experience but often such practical experience does not include exigencies and emergency situations. But the lessons from such occurrences are vital and expensive and dangerous for a port to leave learning them only from an actual occurrence. If such dire emergencies and exigencies can be simulated and a port's pilots trained on how to handle them at such facilities would be highly beneficial and their pilots will be better prepared were they to occur. Often, human beings freeze when confronted suddenly with an emergency situation. Which is why drills, designed to tackle some typical emergency situations, are practiced on board ships. Similarly, importance is to be given to the training of pilots to deal with emergency situations while handling a ship in a port. One common facility where pilots can periodically visit and train and benefit from is required to be set up. The simulator can be fed with each port's ENC charts and used for training sessions. All pilots should be sent there at suitable intervals in what we may call Continuous Professional Development. I have also seen excellent Manned Model Training facilities

across the world where you actually get to sit and maneuver sized-down ship models where they are navigated in water channels designed to provide very realistic hydrodynamic effects and complete with scaled down harbour tugs too. Such manned-model training facilities allow pilots to train for emergency and contingency manoeuvres under very realistic conditions. The benefits to ports who provide such training are just incalculable.

6. Marine Pilots need safe pilot launches/boats at all Indian Ports. Substandard boats or boat crew may prove dangerous if not fatal for them. The boat crew need to be trained, be subject to proper safety drills and must be trained also in basic first aid. Their actions in emergencies could save lives. Pilots too need to be trained in basic first aid regardless of rank and age. Certification to be renewed with repeat courses at agreed intervals of time. Another aspect is the training of the boat crew for retrieval of pilots from water should one fall in the water. Experience gained through practice drills should lead to the provision of equipment like a pole with a retrieval hoop attached, a small winch system that could perhaps swing out, retractable rigid ladder that leads well down into the water etc. All to help with the retrieval of a possibly incapacitated/unconscious pilot who fell in the water.
7. There is a need for an officially established notification and reporting procedure, preferably online, where pilots are given access to a "complaint and request action" section with Port State Control. When there is a non-compliant ladder or serious defect(s) in ships' equipment and machinery which is critical for its safe manoeuvring, they may request an inspection or report a non-compliance to MMD/ DG Shipping directly.
8. Indian Seafarers, I feel, need a workshop/short course on the correct interpretation of SOLAS regulations and IMO guidelines about the correct way of rigging pilot ladders. The need is felt due to little or nil clarity among our Indian Flag Vessel crews.
9. I recently had the fortune to take up a course in Bridge Resource Management course by Capt Ravi Nijjer in Australia. It was eye opening to say the least. Its benefits include identifying problems we are likely to face in our jobs as pilots and providing a means to acknowledge, understand and avoid them. The human error angle can be reduced and hence I feel BRM courses must be taken up by pilots. The ports of India can send their pilots for this training at intervals.
10. Fatigue monitoring and proper procedures and SOPs in this regard should be in place in ports for its pilots. The maritime fraternity around the world is fine tuning and seriously exploring the incorporation of procedures to manage fatigue into the BRM practiced aboard ships. However ports in India are often running short of pilots and under-recruiting leading to an imbalance between the number of pilots retiring number and those working. A forward looking approach regarding recruitment of trainees must be adopted. A rest hour management and recording system should be required to be laid out by ports. This will in turn reduce fatigue related errors of judgement and accidents over the long run and improve performance figures for all pilots alike.

11. Shipboard procedures have evolved and undergone changes. The most important one being the evolution of a Safety Management System for all shipboard operations to ensure that when a task is carried out in your workplace, every precaution has been taken to reduce the likelihood of there being an incident that leaves someone injured or worse. Such positive change on ships should also be felt ashore in our ports. Indian ports should adopt their own SMS and establish Standard Operating Procedures for all types of operations that pilots and other employees of Ports are involved in. The ultimate aim and goal to be achieved - being safety of their personnel and of navigation in their waters. I feel this is an urgent need.

12. Marine Pilots should be issued a basic licence by a pan-India Government Authority, similar to how airline pilots are issued licences by the DGCA. Such licencing system would require the

uploading of records of employment of the concerned pilot. The basic license renewable every, say, 5 years. It would require it to be supplemented by a port-specific one issued by the port at which the pilot is to work in accordance with its training program. This way, an updated record of a pilot's work experience is available to parties entitled to ask for the same. This will better serve the port that wishes to engage the services of a pilot from another port - in the form of deciding what and the extent of the port specific training that may be required

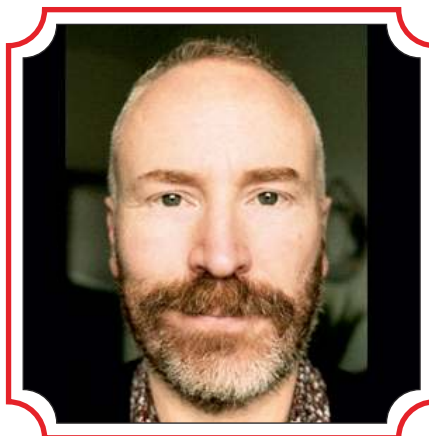
I hope this article of mine serves to sensitize stakeholders to the needs of Marine Pilots. It is to be remembered that a pilot's life literally hangs by the ladder a ship provides, trusting the seamanship skills and knowledge of its (often) multilingual and multinational crew. For, "It takes years to make a pilot but not even a minute to lose one"!

Safe Passage

By Andy Natrass

Maritime Specialist - Trelleborg |

Navigation & Piloting, UK Trelleborg Marine & Infrastructure



The limitations of a PPU predictor and how this could be addressed in the future

We should begin by addressing a few obvious limitations before diving in, the first being the data available to produce your prediction, noting that your prediction and motion vectors are only as good as the data presented for processing, if the quality of the data source is poor, the visualisations will be equally as poor - and potentially directly misleading.

Data from the vessel

Let's start with semi-independent PPU's that utilise HDG and ROT from the vessel, it's important to realise that there are two ways of extracting this data, one way by plugging directly into the pilot plug, the other via the AIS transponder. When receiving HDG and ROT from the AIS transponder it's important to understand this data is only available approximately every 10 seconds while sailing between 0-14 knots holding a course [1], and 3.33 seconds while changing course in the 0-14

knot speed band [1]. Obstructions or receiver / vessel transponder faults add to the uncertainty of this method, missing a data packet via the AIS VHF signal would effectively half the available data for that time period, for accurate predictions it could be argued this method is insufficient.

Compare this to a system that plugs directly into the pilot plug, this type of system offers data every second, the pilot plug is a hard wired connection so you aren't faced with the AIS transponder deficiencies mentioned above, there will never be bandwidth restraints or a missing data packet, so the option to plug into the Pilot plug is far superior for systems that extract HDG and ROT to either repeat or improve it via a rate-sensor & microprocessor. So addressing this first would be an important step in ensuring your prediction is as accurate as possible in a semi-independent system.

Independent position source

Not using an independent position source isn't recommended if the predictor is something that forms part of the decision making process

while underway.

Here we look at two examples showing the difference between relying on the ship's instrumentation alone, then with the addition of an independent source of speed and course.

The first example shows an actual pilotage with a unit connected to the pilot plug and a GNSS unit placed outside on the bridge wing giving accurate position, speed, and course - all three parameters coming from the same point, the position of the GNSS antenna will be the offset position of the entire system.

The second example is from the same pilotage, a few moments later. Now the GNSS is turned off and all data is coming from the unit plugged into the pilot plug. The antenna offsets also come from the pilot plug, indicating the position of the ship's GPS antenna. We do not know if the speed and course are also measured from this point so this is a big uncertainty, and therefore must be consider a limitation that carries risk.

Using both pilot plug data and independent GNSS unit

Offsets set for the GNSS unit (Orange dot). Both location, speed, and course are measured from this point. The prediction and vectors indicated the actual movement of the ship.

Using pilot plug data only

The offsets come from the pilot plug of the ship's own GPS antenna (Red dot). Speed and course come from other equipment from another point on the ship. In this case probably closer to the stern. Only one set of offsets come from the ship, so the software will have to assume that all data is measured from this one



point even though the positions are varied. Obviously speed and course measured near the bow will be very different from a measurement near the stern when the ship is turning. So measuring speed and course near the stern and assuming that it was measured near the bow (at the offset point) will obviously result in wrong visualisation of prediction and vectors.



So it is important to understand these potential errors coming from the ship's instrumentation and AIS setup. Configurations can obviously vary, but this provides an overview of all the parameters.

Standalone PPU's

For standalone PPU systems, HDG and ROT is produced independently from the vessel, so the AIS transponder vs pilot plug isn't relevant here.

One note on standalone systems and any

independent GNSS system is ensuring the quality of the receiver meets the standards expected of the industry, GNSS receivers for such units should be of high quality, and you need to be aware of receivers with high sensitivity but low accuracy, these can sometimes offer only a 10cm / sec accuracy, the speed accuracy required to ensure the PPU can produce accurate predictions should be no greater than 1cm / sec.

Current and Wind data feeds

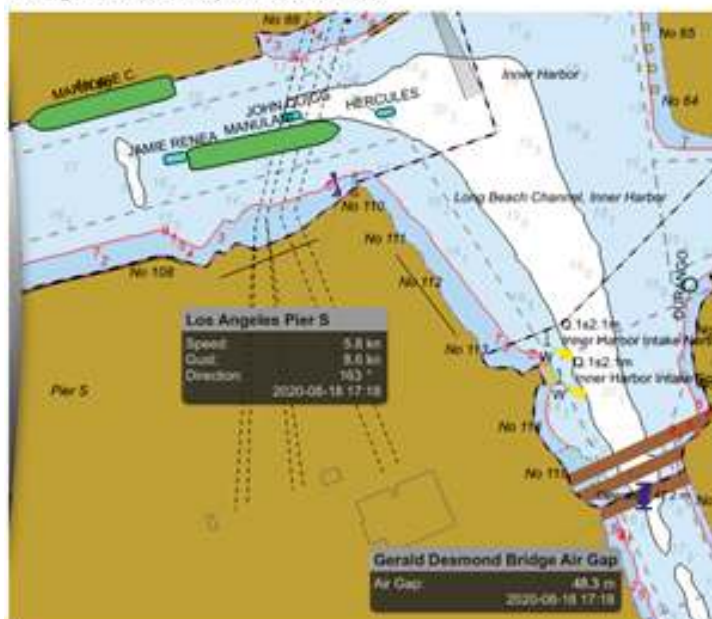
Finally we need to consider wind and current, although its common place to have external data displayed from various sensors (see image #1), to date this data has been used as a reference on approach to an area or during planning, it's rare to have it used as an input into a PPU predictor.

Some points to consider here:

- I. *Price point to have a system to process this amount of data would attract a high price tag.*
- II. *Then we need to look at redundancy, the more you feed in the more redundancy you need, a simple faulty or failed current sensor would affect the predicated path that you assume is correct, do you have redundant current sensors and redundant servers to match, or a simple visual que on the software of the failure, then reassess the situation or revert to the system we have now?*
- III. *Would you be happy with a system with these credentials and elevated price point to then have it as a reference piece of equipment only?*

So in summary, you need to ensure the

Image #1 curtesy of SafePilot™



data coming in is accurate and reliable, then you need to assess if a predictor incorporating external forces can be justified given the price point and possible redundancy requirements already mentioned.

The more inputs you have the more there is a requirement to monitor and assess the operation state of these inputs, meaning there would be a knock on effect for such a system, the costs associated with the system would stem further than just the PPU. External inputs would make for the next phase of even more accurate predictors in certain circumstances, but also opens us up to other vulnerabilities, all of which we can overcome, but we need to assess the actual requirement opposed to just using technology because it's there.

References

[1] <https://help.marinetraffic.com/hc/en-us/articles/217631867-How-often-do-the-positions-of-the-vessels-get-updated-on-MarineTraffic->

A brief overview of the latest developments in PPU's, where the technology is going,

plus how training is supporting this.

PPU's have certainly become smaller over the last decade, but size isn't the only change, the ability to share information both in and out has also come a long way, below is a short summery of what Trelleborg has been working on. It's worth noting that these developments have been heavily influenced by the global piloting industry and users of such systems and equipment.

Below is what you should now expect to be standard options form a software suite that Pilots and organisations can choose from.

- Ability to turn on and off GNSS systems if required
- Notification of loss of base station or satellite signal
- Integrated Master pilot exchange
- Shore server for pilot data exchange
- Third party sensor display (tide, wind, current, visibility, airgap etc)
- Seamless installation of Charts, either pushed to a device for instant installation and renewal with the ability to save bENC, XYZ charts direct the your hardware
- RTK Corrections via NTRIP in addition to UHF
- Software not tied to a device and free to move between hardware quickly
- Shared two way Vessel to Tug data
 - PPU based display for the tug skipper.
 - Real time display of assisted vessel and predicted location
 - Real time display of all tugs in operation
 - Real time sharing of
- RPM / pull force for indication or power reserve

- Position and heading
- Container crane positions
 - All crane positions shown.
 - Indicates if crane is on predicted sweep path of ship's bridge.
 - Display to-go distance for alignment with crane.
- Additional means of relaying critical information to hand held devises



- Radar overlay
- Phone software



Training and support.

2020 has seen a big focus on operation specific training programs. At the core of these training programs there has been a strong focus on tools that directly assist an organisations operation, secondly is an overview of the entire software suite which presents total functionality to a larger group, they can then decide as a whole what additional functionality could be beneficial, this method is critical in the continued development and refinement of PPU software and is an important method to test additional functionality with groups. To facilitate this platform it is key to have all the options to serve a very broad and vast operational need across the world, but retain the ability to hide or disable options not required for your operation, this aligns with the CIRM IMPA Guidelines On The Design And Use Of Portable Pilot Units section 3.2 (c).[2]

A short mention specifically in relation to hardware training, the importance of hardware training (namely PPU sensors) and understanding their limitations plus how they directly affect the output to the software is critical, so a big focus on hardware training should be offered as the sensors would be considered the backbone of the system, it's importantly to understand what the effects that improper use or setup have on the output to software, this in-turn helping users identify issues generated from the effects of incorrectly setup equipment from a software display.

It's envisioned that training for such systems used for pilotage will require official RTO or equivalent courses in the not too distant future, which aligns with ECDIS training and the array of other training requirements imposed by AMSA.

In closing, something to consider when choosing a PPU system is the training and support structures put in place to support them, combining software and hardware training is a big advantage, Aftersales 24/7 support should also be offered when requested (at a price point). Ensuring you have unobstructed access to such support is key for both parties, foremost to support the operations of users and to maintain open communication, which is key for the industry and its tools to develop and evolve.

An example of current options should include:

- Skype training for all users
 - Certificates issued
 - Questionnaire with test
- Simulation centre support
 - Provide support for any simulation centre of your choice
- Train the Trainer, Super-user course (for large organisations looking for a small internal group to become key users / internal support)

References

[2] <http://www.impahq.org/admin/resources/guidelines.pdf>



Andy Nattrass

Andy Nattrass

Maritime Specialist - Trelleborg |

Navigation & Piloting, UK Trelleborg Marine & Infrastructure

British based Sales manager for Trelleborg Navigation & Piloting. An ex Merchant Navigator by trade - previously working for Maersk, Odfjell Tankers and experienced in the oil & gas offshore sector.

I Rescued My Ships Pilot

Nasir Khan

Harbour PILOT

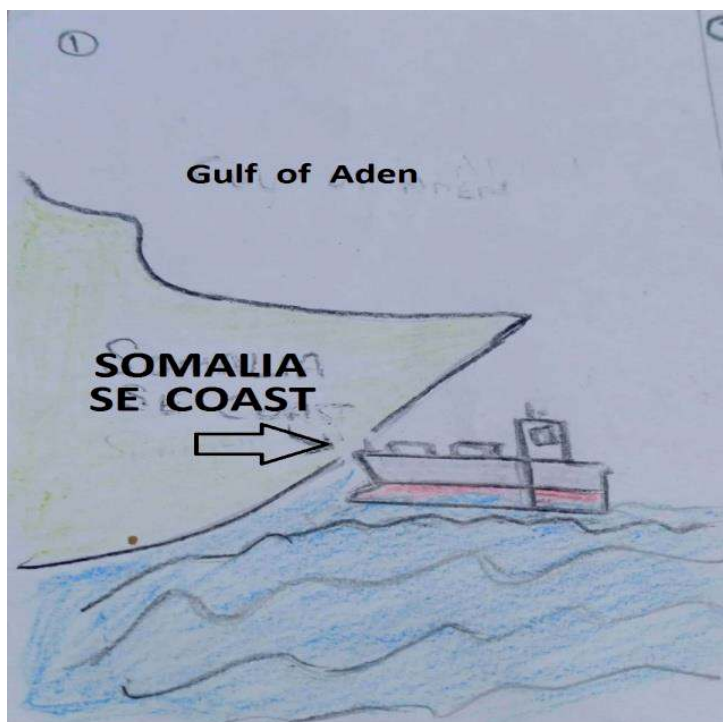
Asst. Harbour Pilot at Saudi Aramco project



In Early 2003 I joined as a Chief Officer of General Cargo Vessel .

Vessel route was UAE to Somalia.

We Arrive SE Coast of Somalia to discharge at anchorage.



Pilotage only at day lights at Somalia.

Mr. Pilot on boarded to take the ship to safe

anchorage due to shallow patches .

Mr. Pilot looks 70ty years .

Vessel driven to anchorage point and safely anchored .

I Escort the Pilot to Disembarkation point .

Ships crew was stand by as well .

I stood upper deck and keep monitoring , 5m away from the Disembarkation point.

A boat comes alongside , which is not special pilot Boat but it was one of cargo boat, like skiff

Boat its almost 7 meter long and 1 meter high from sea level .

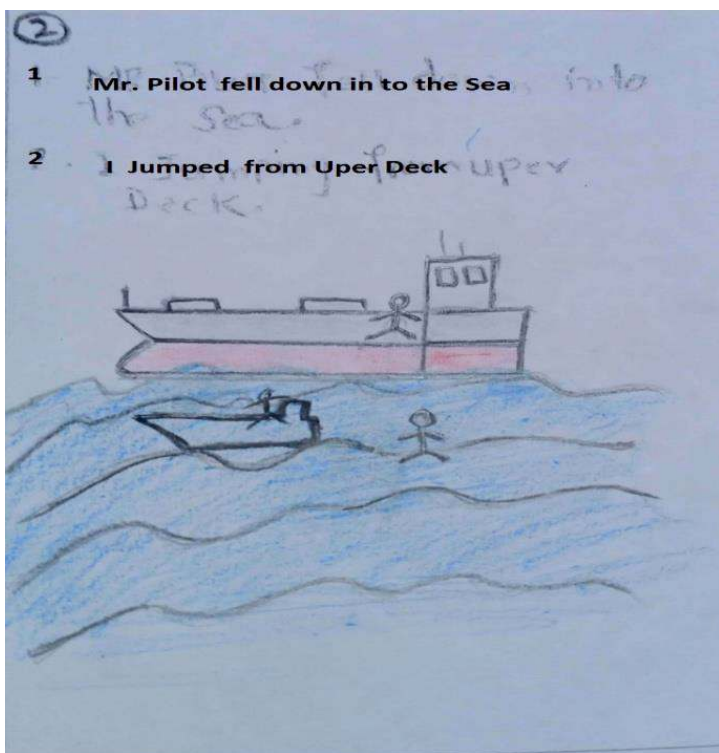
Mr. Pilot on ladder to disembark when he step in boat and other still at ladder , the boat get

moving away from ships side .

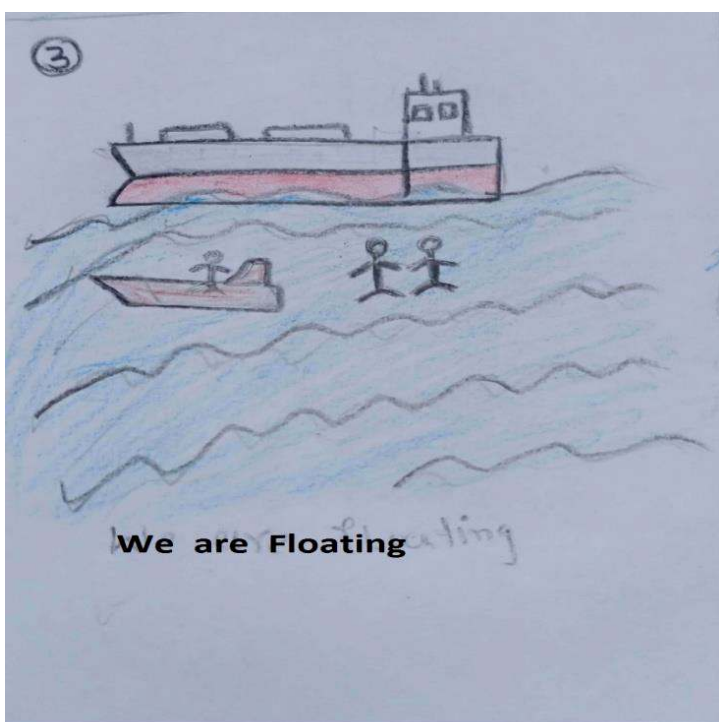
Mr. Pilot couldn't balanced him self and he released his gripe from the ladder .

Mr. Pilot fell down into the sea.

As I saw Mr. Pilot fallen, within seconds I jumped

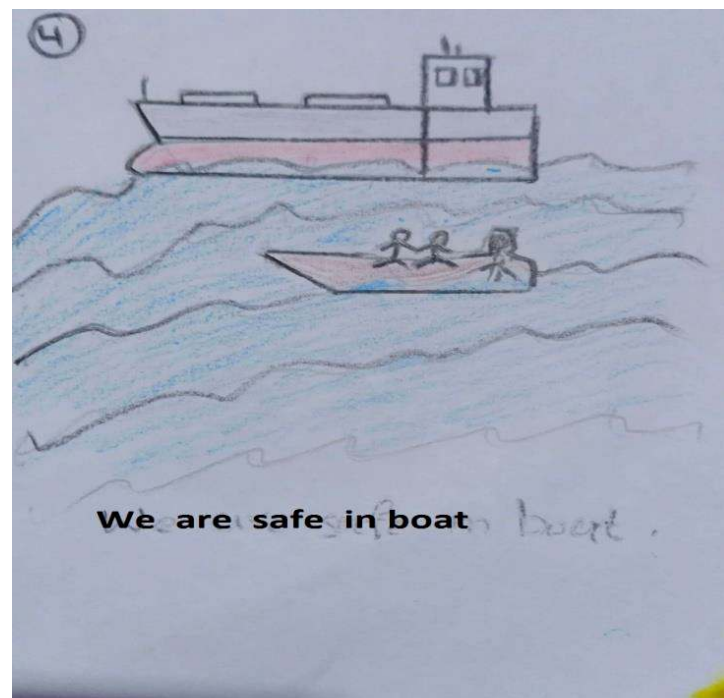


into the sea near by Pilot from the upper deck which almost 5 to 6 meter high, Being a good swimmer .



Ships crew thrown life buoy as well. I reached to Mr. Pilot and hold him. I told Mr. Pilot don't worry we will be safe.

He replied, I also have swimming skills, but just need your support , I rejuvenate when I heard that. I get support him and We both are floating for 5 mints . Boat comes near to us and we get in the boat safely.



I instructed my crew to arrange overall dress and a cup of coffee for Mr. Pilot. When He finished with his hot coffee I asked Mr. Pilot are you well to go your home. Mr. Pilot looked me by Grateful eyes and said Yes I am fine to go home now.

I humble request to all seafarer's to well arrange Pilot ladder , as well I requesting to Mr. Pilot's specially while getting down using pilot ladder to stay safe .

It's an old story But it's a True story .

Nowadays well aware whole Maritime organizations and Associations but still need to keen observe the relevant issues.



Nasir Khan

Nasir Khan

Harbour PILOT

Asst. Harbour Pilot at Saudi Aramco project



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Tel.: 2444 4248. **Email:** news@bhandarkarpub.com