

All India Maritime Pilots' Association

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

> Personality of the Month-Capt. Pramod Chaudhary

Visual piloting at night John Clarke AIMPA webinar part -II Capt Sanjiv Pande

Final analysis on Pilot Ladder : 2019 Jeff Parfitt

Some Thoughts on pilot ladder poster Arie Palmers.



Season's greetings to one and all.

Maritime pilotage job is not easy and apart from the challenges of embarking and disembarking the vessels, pilot also has several technological challenges in years to come. The wind has already started shifting and the world has taken a note of it and amended the plans for Maritime Pilots accordingly.

AIMPA is deliberating the Maritime Pilot Training at various forums. We have a strong linkage to the world pilots and we firmly believe Indian Maritime Pilots need to be trained for better future. The training also will elevate the position of the Maritime pilot.

I recently read a definition of a Maritime Pilot and this it self gives a complexity of Maritime pilots' job from legal point of view as well.

A marine pilot is someone, usually a local expert in navigation (such as an ex-ship's master) and the marine characteristics of the port, who is employed by the local port authority and, in that capacity, renders a service, known as "pilotage" to a vessel owner, which entails the pilot assuming brief control of the navigation of the vessel, usually in waters that require familiarity with the area and local conditions, such as currents, tides and shifting sandbanks, in return for a fee payable to the port authority.

This needs more of a structured module-basedtraining to the Maritime Pilots in our country. The investigations lead by the casualty investigator are today based on IT and IOT and a complete threadbare analysis of voyage data recorder. We need to train our pilots in this area as well.

Post AIMPA's webinar highlighting the need for training for Maritime Pilots, we see certain awakening in this area of Pilot training, AIMPA is happy to participate with Authorities to brainstorm and come up with a broad outline. Having said this the need for a full-fledged Pilot Training institute is felt for development for centralised pilot training with all facilities like Manned scaled model as well as advanced Simulator based training with Bridge resource management. This would definitely hone proper skill sets in Maritime Pilots.

This month's journal also highlights the training aspect through John Clarke's article on Victualing Pilotage at Night which is an essential skill for pilot. AIMPA's webinar Part II summed by Capt Sanjiv Pande on Pilot Training becomes a part of this journal as well. Proud to reproduce the article from Jeff Parfitt from CHIRP HQ in UK about the final analysis about 2019 pilot ladder which would familiarise us with the dangers of Pilot ladders.

I wish all the Maritime Pilots happy seasons greetings and prey for their wellbeing. It is time that they upgrade themselves into new learnings.

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All India Maritime Pilots' Associaion

INDIX

1.	President's desk	. 02
2.	Personality of the Month : Capt. Pramod Chaudhary	. 04
3.	Visual piloting at night : John Clarke	. 05
4.	Some Thoughts on pilot ladder poster : Arie Palmers	. 09
5.	AIMPA webinar part -II, : Capt Sanjiv Pande	. 11
5.	Final analysis on Pilot Ladder : 2019 - Jeff Parfitt.	. 15

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All India Maritime Pilots' Association

Personality of the month Capt. Pramod Chaudhary

ife is short,

so do what you enjoy the most : Capt. Pramod Chaudhary

For a Master Mariner when he quits sailing there are a variety of options available to take up as a shore job, ranging from vessel superintendent to a teacher in a nautical college, Surveyor, Charterer, Ship broker or a Marine pilot etc. to name a few.

Few are the blessed ones born with talents to have additional choices, Capt. Pramod Chaudhary is one of that kind.

Capt. Pramod Chaudhary says "When I was born priest gave a choice to my mom and dad saying he can become an extra ordinary S****r, mom wrote Singer and dad ...Sailor, this is how I became both", he tells jokingly.

He adds- "Music has been my first love since my childhood, I started singing at a very early age however not many popular platforms were available to showcase ones' talent in those times."

"I was good in my studies too, this is how I cracked the prestigious T S Rajendra in 1988. A professional career spanning over three decades has given me a wide exposer ranging from commanding a ship to engaging in chartering, shipbroking and finally settling in 2010 after finding my second love in pilotage, it gives me a flexibility to practice what I love the most at the same time I do not need to bother for my expenses to meet my requirement. I joined Adani Ports, Mundra as a Marine pilot and still going strong." Piloting has its own challenges like any other profession but the kind of freedom it gives no other profession can offers.

Capt. Pramod Chaudhary is popularly known as "Singing Captain" in Bollywood circles.

He is also popularly known as SINGING CAPTAIN in bollywood circle as he has sung for 4 hindi films , his songs have been released by T series in 2018 which has been a blockbuster. He runs his own musical.band -- CAPTAIN'S BAND.

Life is short you must do what you enjoy the most is the advice from him to all who want to follow their heart.

"For me SOS is, Song of the Seas" he smiles.



"May the melody of your voice keep ever-increasing" PC, as he is known to his close friends.



n September 2019 the Transport Accident Investigation Commission (TAIC) published an investigation report (MO-2018-203) that contained the following statement:

"The grounding is an example of why it is not appropriate to use visual navigation alone (often referred to as line-of-sight navigation) when manoeuvring large ships in narrow channels, and in the dark."

I found that comment interesting, and I thought about it several times in the days after I initially read it. I wondered: is it actually any more difficult to pilot a ship by visual means at night? Unfortunately TAIC did not expand on or refer to the issue again in their report. It was said as though it was accepted fact. But if it were accepted by the industry, wouldn't there be some reference to day/night conditions in the New Zealand Port and Harbour Marine Safety Code? The Code contains an appendix comprising Statements of Good Practice which includes hydrography, prevailing weather conditions, and navigation aids among other subjects, but there is no mention of presence or absence of daylight. I was aware of quite a number of situations in NZ ports where pilotage of some classes or size of ships was restricted to daylight only, but in my experience, the largest container ships still come and go at any time of the day that there is sufficient water under the keel.

I discussed the topic of night pilotage with a number of colleagues at the Napier workshop and my impression was confirmed that, in most cases, night pilotage is not considered a special case by ports and pilots. The pilots I spoke to differed quite a lot in their opinions: some told me that they believed night pilotage was no more difficult than piloting in daylight – the presence of well-lit navigation aids allowed them the same situational awareness by night as they have by day. Others told me that night pilotage was obviously more challenging due to the lack of visual cues. There was no consensus.

My own feeling was that in some respects, night pilotage is easier than day. A lit navigation beacon, flashing against a dark background, can be a lot easier to pick up at distance than a small spar or buoy on a white-capped piece of water or in the reflected glare of a low sun. And berth areas are generally very well illuminated with bright floodlighting. However the lack of formal industry and pilot-body consensus on the question led me to try to learn a little more about the topic. Given how much time we spend out on the water in the dark, I felt it was important to inform myself better. Was the TAIC investigator's comment in the report correct, or should it have been challenged?

I'd also recently been reading some accident investigation reports in NZ and overseas where groundings or collisions occurred at night. While lack of daylight definitely wasn't the root cause of any of these groundings and collisions, it was notable that reduced situational awareness played a part in each case. The Helge Instad/Sola TS collision in particular struck me as an event that couldn't have occurred in daylight -it would not have been possible to mistake the tanker for a part of the terminal as the Norwegian frigate's bridge team did by night.

Looking for more information, I found some interesting reading on the limitations of human vision at night. The first thing I learned was that, corrected for all other factors, more aircraft and road vehicles crash at night than by day. Unfortunately no similar "time of day" statistics were available for vessel groundings. Most of the transport-related articles online were from the aviation industry. Although the challenges they face in a night-time cockpit differ from those on a large ship's bridge, there are many common factors, and our eyes work no better than theirs, so there was relevant information to consider. The physiological limitations of operating outside daylight hours are intensively studied and understood in the aviation world. So much so that most credible aviation regulators around the world require instrument ratings for pilots before permitting them to fly at night, regardless of clear meteorological conditions. Along with what I could fin d online I researched some human factors textbooks. Together, these gave me a better understanding of how our eyes and brains make sense of the world in differing ambient light conditions.

Types of Vision

Our eyes are highly adaptable organs; they function very differently in different light conditions. In full daylight the

colour and detail-sensitive cone cells, concentrated in the fovea, at the centre of our visual field, provide maximum visual sensitivity in a concentrated, narrow field of view immediately in the direction our eye is pointed at. This is known as photopic vision. When visually piloting in daylight or brightly lit conditions we are using our photopic vision, with maximum visual acuity. We look directly at something, and see the detail and colour of whatever we are looking at.

As twilight falls, the level of contrast ratio (the difference between the brightest and darkest ambient light) decreases. In twilight conditions, our eyes operate in a mixed state termed mesopic vision, where the bottom of the cone and top of the rod operating levels overlap. Compared to daylight conditions, mesopic vision is inferior. Contrast sensitivity and visual skills decline rapidly when entering mesopic vision (Green, 1981). Mesopic vision gives us the illusion of visual acuity: objects can be clearly seen by looking directly at them, but the ability to determine detail in those objects is reduced, as is peripheral vision. The effect of this reduction in contrast detection and peripheral vision is to reduce our ability to judge movement and distance by eye.

In full darkness the cone cells lose virtually all effectiveness and the rod cells, concentrated at the periphery of our retina, have to pick up the load and they take over most of the light gathering duties. These rod cells are incapable of determining fine detail and colour. Rod vision -known as scotopic vision -provides poor visual acuity and inability to determine colour. About all you can expect to see in scotopic viewing conditions is a vague sense of shape and some movement. A pilot with 20/20 visual acuity by day is likely to see his or her vision drop to near 20/200 when operating by night (Kern 2007). Incidentally, 20/200 vision would make you legally blind by most medical definitions. This will not be news to anyone who has tried to visually judge a ship's rate of turn at night when swinging against a dark featureless background such as an empty horizon or unlit steep hills in a fiord or enclosed bay.

The Night Blind Spot

According to the FAA, the night blind spot occurs due to the absence of rods in the fovea and affects an area 5 to 10 degrees wide in the centre of our field of view. If an object is viewed directly at night, it may not be detected, or may fade away after initial detection. To ensure the best opportunity to see objects at night, aviators are taught to scan from side to side rather than focusing on one area.

Empty Field Myopia

As it grows dark, our visual performance suffers in another way. On a night pilotage in a dark fairway where a pilot is not actively turning or handling the ship for a period of time a pilot's eyes will have little to distract them and they are likely to experience something called empty field myopia. Lacking stimulation the eye will return to its dark focus resting state which for most people is between 80cm and 1.5m. This distance is not dissimilar to the distance to the window from a pilot's conning position. This means that although you might think you are looking out the window, you are quite likely to be looking at the window itself. On a dark night our eyes are more likely to focus on reflections, dust, or salt on the window, than to look through the glass and focus on what is happening beyond the ship.

Dark Adaption

Dark adaption (what we tend to refer to as night vision) takes thirty to forty-five minutes to fully transition to in most people. It is instantaneously lost if the pilot is exposed glare from deck and shore lights, bridge screens and instruments. The effect is to overload the photoreceptors and reduce the pilot's visual performance. As with the level of each person's visual acuity, dark adaption recovery varies widely between people and declines significantly with age. It is not tested for in eye tests, and in any case cannot be corrected for (Shinar 2007).

Piloting in a Mixed Lighting Environment

Generally though, night pilotage does not occur in true darkness. The presence of lighting on the bridge and deck, on other vessels, and on shore infrastructure, including intense point light sources such as sector lights, creates a particularly challenging visual environment. Excessive ambient illumination from instruments, displays or reflections inside the wheelhouse or from floodlights outside can produce glare that reduces our visual acuity. Environmental visibility can sometimes be degraded by light from our own ship reflecting off dust or water particles in the air – also known as backscatter.

So what then, are the practical effects of operating visually in and around the berths and fairways in mixed lighting conditions by night? Unfortunately it isn't as simple as mounting some floodlights and installing some flashing beacons to recreate daylight levels of visual acuity. Despite our own opinions about how well we see at night out on the harbour, the science says our vision is significantly degraded. Probably the greatest threat to a pilot's visual performance by night would be a reduced ability to judge distance and movement. In daylight the cues our brains use to judge distance are:

- relative object size object taper
- angular variations
- Iuminosity/shading
- and even the tension in our eye-focusing muscles that varies with object distance.

But when operating in mesopic or scotopic conditions, these cues are far less visible and defined, so we are less able to accurately judge distance and relative motion. Additionally, our ability to perceive detail is significantly reduced in the high contrast ratio environment of a terminal where a mixture of darkness and bright light sources is

Area	Lighting Characteristics	Hazards
Around berth	Combination of bright flood lights and poorly/partially lit structures. Navigation aids may be less visible in glare of terminal lighting.	Poor dark adaption. High contrast ratio beyond human eye's dynamic range. Reduced ability to see detail and movement.
Inbound in channel	Bright background lighting and navigation aids of varying intensity. Other vessels may have deck lighting on. Possible backscatter from own ship lighting.	Poor dark adaption. Difficulty detecting navigation aids and vessel traffic against background lights.
Outbound in channel	Wide, dark visual fields contrasted with bright pin-point navigation aids and vessel traffic. Possible backscatter from own ship's flood lights.	Night blind spot and empty-field myopia. Judgement of distance, size and movement is degraded.
Pilot boarding ground	Wide, dark visual fields with fewer navigation aids. May be a traffic "pinch point" with vessels converging. Possible backscatter from own ship.	Night blind spot and empty-field myopia. Judgement of distance, size and movement is degraded.
Enclosed unlit waterways (fiords, steep-sided bays)	Featureless darkness. Absence of most artificial light. Possible backscatter from own ship. Ship's lighting may assist by intentionally or unintentionally illuminating nearby terrain.	Night blind spot and empty-field myopia. Near total inability to determine shape, distance and motion.

experienced. The presence of background light from terminals and urban areas can make it very difficult to pick out a ship or small craft moving against the background. The Helge Instad/Sola TS collision would be an unfortunate example of this.

Hazards associated with degraded visual acuity in night pilotage

Considering the degraded performance of the human eye in darkness, it is possible to construct a list (Table 1) of the likely hazards specific to visual pilotage that pilots can expect to encounter in different sectors of our respective ports at night.

Table 1: Likely hazards at night in pilotage locations

How can pilots mitigate the hazards?

Now that I'm better informed of the hazards associated with relying on my eyesight by night, I know there are a number of things I can do to better manage the risk.

The first and most important behaviour I believe a pilot should display by night is to plan for and actively use electronic pilotage techniques to support their visual pilotage. In addition to conning the ship visually, we should each use our PPU to its full capability. That includes monitoring own ship's speed, motion, and position within planned parameters. Pilots should cross-check what they believe they are seeing outside, with what the PPU shows. Pilots should also take the time to familiarise themselves with basic functions of common ECDIS and radar sets encountered at their port. As a minimum we should all be able to change range/chart scale, scroll the screen, re-center the ship, operate a VRM, and obtain range and bearing information using the cursor.

Other behaviours that could help pilots and bridge teams to mitigate hazards are:

- Get the fresh water wash put on the bridge win dows if the glass is salty or dusty.
- Request appropriate illumination levels of bridge gauges and wheel house lighting to minimise glare and effects on visual night adaption.
- Request night screen modes where appropriate.
- Consider the option to transit at a slower speed than in a similar daylight job, and leaving more room between own ship and other traffic.

• Minimise use of deck lighting once clear of the berth (for crew safety, deck lighting may be necessary at times).

How can harbour masters and marine managers mitigate the hazards?

The NZ Port and Harbour Marine Safety Code was founded on the principle of risk assessment. Harbour masters and marine managers should review their Harbour and Port SMS and consider how well the hazards of degraded visual acuity affecting pilots, bridge teams and PEC masters are managed in those risk assessments. Have they considered lack of daylight as a hazard?

Just as with other hazards on the harbour there are practical measures that harbour masters and marine managers can take to minimise risk. As an example it is common to apply environmental parameters to ship movements. There is no good reason why absence of daylight should not also form part of those parameters. Typically they might require a ship with a functional bow thruster to use a tug in some wind conditions or wait for better weather before berthing; they should also consider which ships should be restricted to daylight passages, which ships should carry a second pilot by night, or which ships should require mandatory PPU carriage and use by night.

Final word

A review of maritime tragedies shows a disproportionate number of the highest profile, high death count maritime accidents have occurred in the hours of darkness:

Table 2 High profile night-time maritime tragedies

Of the accidents listed in table 2, most are accepted to have included loss of situational awareness as contributing factors to the accidents. In the case of Derbyshire, Estonia and Herald of Free Enterprise, the structural failures or human errors that occurred may have been detected in time to prevent the accident if they had occurred in daylight. Closer to home, and in a contemporary context, several recent investigation reports into groundings included loss of situational awareness by pilots navigating visually in darkness without use of a PPU.

At the risk of labouring the point: no-one can judge speed and distance as well by night as they can by day. Fortunately we have PPU technology to compensate for our degraded visual performance. Navigating large ships in narrow channels at night by visual means alone is no longer appropriate. Understanding and acknowledging that is an important step that pilots can take towards improving their pilotage skills and performance.

John Clarke - Introduction



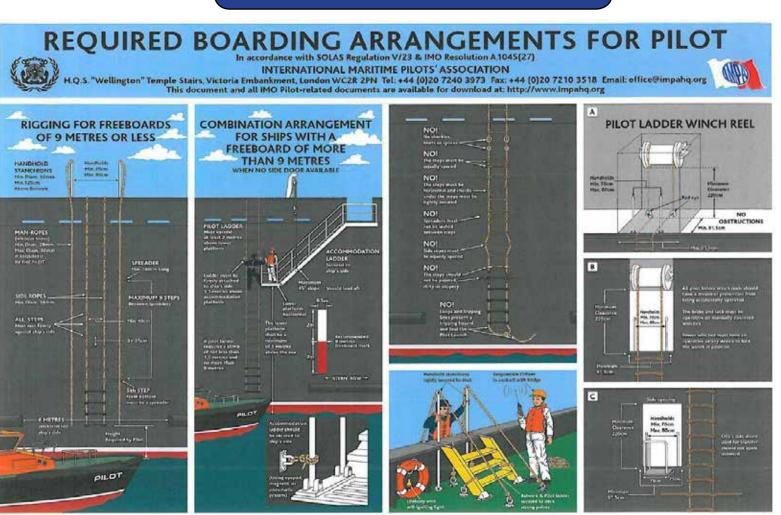
John is an unrestricted pilot in the port of Dampier Western Australia, handling Capesize bulk carriers at the export iron ore terminals over the past 8 years. Prior to that John was a pilot in the New Zealand ports of Lyttelton and Port Chalmers. John is a former master of deep sea bulk carriers and container ships and is an MBA graduate

from the University of Tasmania.

Year	Ship	Fatalities
2012	Costa Concordia	32
1994	Estonia	852
1987	Herald of Free Enterprise	193
1987	Dona Paz	4,386
1980	Derbyshire	44
1968	Wahine	53
1956	Andrea Doria/Stockholm	52
1912	Titanic	1,514



Arie Palmers -- Reg. Pilot



The well known pilot ladder poster is displayed on the bridge of every ship nowadays. Often another copy of the poster is displayed at the pilot boarding point. Crews rather use this poster to install the pilot boarding arrangement than reading another set of rules and regulations, after all a picture tells us more than a 1000 words.

In this article I would like to share my thoughts on this pilot ladder poster. Is it as good as we think or is there room for improvement? By taking you through this poster step by step I hope to explain what needs to be changed to make it similar to IMO an SOLAS regulations.

Pilot ladder poster issued by IMPA

I will tick of a number of improvements and get into a very important issue more extensively.

Combination arrangement section:

- pilot steps up from the ladder to the platform, where he should step only sideways.
- Pilot mark has been placed in the wrong position with the result some ship's do the same thing.
- Someone on the platform welcoming the pilot. The only place where this is mentioned is on the poster, nowhere else. Imho he could better stay on board instead of taking risks.
- Gangway is secured tot he hull by means of rope, a magnet is also allowed. Similar for the ladder: secured by magnets, but rope is also allowed.

Bulwark section:

• Pilot ladder without thimble eyes at the top end, secured with a wrong knot, similar for the sideropes.

Figure A,B and C:

- Drawing suggests pad eyes are the only solution to guide the ladder from vertical to horizontal, as we know more ways are possible.
- IMO A.1045(27) states in 7.4.2: "The pilot ladder shoud be secured to a strongpoint, independant of the pilot ladder winch reel". Not the case in any of the 3 figures
- IMO A.1045(27) states is 7.4.3: "the pilot ladder should be secured at deck level inside the ship opening or, when located on the ship's upper deck at a distance of not less than 915 mm measured horizontally from the ship's side inwards". Not the case or made clear in any of the 3 figures
- In figure C, the ladder is not secured to the ship's hull 1,5m above the platform as required.

Let's now focus on the most dangerous remark on the poster, the 9 m freeboard....

In the combination section is printed: "a pilot ladder requires a climb of not less than 1,5m and not more than 9m."

This suggests that a pilot is allowed to climb a 9m ladder despite the required height above the water. Should, as for example, the pilot boat require the ladder to be rigged at a height of 3.5 meters above the water as we do in our region when we get boarded by swath, this would mean an additional climb of 9 meters would be allowed, wich makes 12,5 meters in total. Absolutely dangerous as the table below explains.

SOLAS ch. V reg.23 tells us very clearly in 3.3.1: a pilot ladder requiring a climb of not less than 1.5 m and not more than 9 m above the surface of the water so positioned and secured that.....

This is quite different than the maximum climb of 9 meters the pilot ladder poster mentions. People have died falling from heights. Dropping from a height of more than 9 m will most certainly result into fatal injuries. Falling from lesser heights gives you a chance of survival. The table below in which I put dropping height in relation to speed illustrates this. Dropping from a height of even 3m will result in a final dropping speed of almost 28 km/h before you'll hit the deck...from 10 meters even 50km/h, like driving into a wall..

Height in m	Speed in km/h
1	15,94
2	22,54
3	27,61
4	31,88
5	35,64
6	39,04
7	42,17
8	45,08
9	47,81
10	50,4
15	61,73
20	71,28

As you can see, gravity pulls hard on us....

10

All together it shall be clear that the poster is a very good asset to give a general idea, but it must be correct and similar to IMO and SOLAS rules, therefore an update is required.



Report on the 2nd session of AIMPA's webinar held on 24th Oct 2020 on "Reconceptualising Indian Maritime Pilotage"



The second session of AIMPA's webinar began with its moderator, **Capt Sudhir Subhedar**, a person who is very well versed in Indian maritime laws, saying that Indian pilotage per se was really not covered under a specific law. He felt that pilotage, though more an art than a science, definitely could not be left out of a properly devised system of training. Perhaps the Code of

Capt Sudhir Subhedar

Pilotage as implemented in the UK, Canada and Australia could be a good place to start in achieving this objective in India too, he wondered. Setting this background, he invited the first speaker of the session, Capt Andrew Beazely to present his thoughts on his chosen topic.

Speaker-1: Topic - "Manned Scale Model Training"



Capt Andrew Beazely, an ex-Pilot and the Managing Director of the manned model ship handling training facility "Port Ash" in Australia - began his presentation by referring to the IMO Res. A.960(23).The resolutionconcerns basic training for marine pilots and the maintenance of their skill and proficiency. One of the recommendations of this resolution

Capt Andrew Beazely

is the use of simulators as well as manned models, amongst other methods, for developing and maintaining the ship handling skills of marine pilots. He showed pictures of his manned scale model training facility. Trainees and trainers could be seen sittingon the scale models which were of a variety of ship types and sizes plying in the waters of a scale model of a typical harbour and canal system, practicing ship handling complete with scale models of tugs assisting.(Seeing all of which at once sent a thrill up this reporter's spine – being a pilot himself!)Capt Beazely remarked that the manned model pilot training method takes the learner out from the theoretical and mathematical world into the real world. Here, trainees get to actually feel the theory coming into practice with all the vagaries that affect ship handlingfaithfully replicated. Like shallow water effects, bank cushion effect, vessel interaction effect, the effect of wind and current, the bighting of the anchor and so on. The manned model method of training develops what are called visual ship handling skills, he said. Affordable electronic simulators came about much after manned models, as a ship handling training tool. Both methods however, complement each other and don't necessarily compete with one another, he said.

As he concluded his presentation, Capt Beazely said a manned model facility could be particularly used for refreshing knowledge on use of anchors in emergency situations, use of tugs during both normal times and during emergencies.

The moderator, Capt Subedhar, before introducing the next speaker, remarked that though the IMO Res A.930(23) was adopted over 15 yrs ago not many countries had implemented its recommendations, which was a pity.

Speaker-2:Topic - "Human Factors in Pilotage and Safety of Navigation"



Capt Simon Meyjes, being the key person in setting up the highly acclaimed pilotage management system of the Australian Reef Pilots Association, began by stating an often quoted fact. That 90% of the time, incidents are caused due to human error, which is typical. When designing a system of operation that would reduce the impact of human errors, it is important that it

Simon Meyjes

11

is based on a holistic approach. Because, any flaws in the system will impact the performance of the individual. And so the system has to support the individual.And any flaws in the individual will obviously, in turn, impact that system. This means we'll have to find ways to strengthen the individual. System designers shouldn't forget that humans willmistakes, no matter the amount of training and education they are given. Accepting this fact will help create a system that helps avoid a "blame culture" in the organization. A good system will focus on establishing a good safety culture and fixing things and not fixing

people. Some tasks which have been analysed to have very serious consequences if certain errors were to occur, should be performed independently by a person only after having performed it a sufficient number of times under the supervision of an experienced person. Then the task would be performed in what Simon termed it, a "school based mode". Such a mode of performance had a very low error rate (1:1000). Other performance modes were "rule based: (error rate 1:100 - errors creep in faster as rules are misinterpreted or not properly made) and "knowledge based" (error rate 1:2 – where the task is new or has been performed infrequently). Humans being humans, and not robots, are ingenuous. So, the way a procedure is actually performed could be guite different from what is written in the operations manual. Therefore, it is important that the system designed should enable a work culture that allows persons to give feedback freely, and without fear - "on anything and everything" - at all levels in the organization. This would avoid people doing a "work around" which is, work "as it is done" as against work "as it is imagined"-(written procedure).

It could be seen that Simon had much more to share. Due to time constraints he had to conclude much sooner. He said that a good system could be designed based on "BRM" principles but applying them to the whole of the port's team all the way to the top, making it a case of "TRM (Team Resource Management).

Speaker-3: Topic - "Pilotage and Benchmarking of Pilotage Training In India"



Capt Anand Karkare, ex Deputy Conservator – Mumbai Port, began his presentation confirming that the IMO Res A.960(23) was a good place to start for any port looking to establish or revise its own pilot selection and training procedures. He gave an overview of current pilotage training systems in India, saying any re systematic training existed only in the

Capt. Anand Karkare

major ports of India and just a few non-major ports like Adani Ports and Reliance Ports, and a few others. Most non-major ports do not have formal pilot induction and training programs. Instead, they depend on pilots trained at major ports migrating to them. This is mainly because the Maritime Boards of various State Governments are as yet to formulate Pilotage Regulations that would incentivise all ports to develop pilot training systems of their own. Presently, pilots joining non-major ports undergo some familiarization process of the port after which that port applies to its State's Maritime Board, which grants permission for the pilot to handle ships at that port.

Capt Karkare informed attendees that as recently as 19th May, 2020, the Ministry of Shipping had promulgated guidelines for training of pilots in major ports. He said that, these guidelines are based on IMO Res A.960(23). Briefly, they recommend that a port's training system include: some class room based modules, followed by on-the-

job-training aided by port-specific simulator training. And finally, an examination which would be conducted in a written and an oral form as well as on a simulator.

"Unrestricted tonnage" pilots under recent policy changes, would now need to undergo CPD training in areas like developments in bridge equipment and navigation aids, changes to laws, regulations and guidelines. Pilots would also need to meet medical fitness standards and undergo medical examination at regular intervals. Providing evidence of continued proficiency by way of maintaining 'Service Records' and records of refresher courses undertaken would also be required.

Policy makers could consider benchmarking of Indian marine pilot training to some established, quality pilot services. For example, adopting the "CERTIPILOT" tool developed by the EU for their pilot organizations to determine internal training needs and building training paths. Prior to this, he felt that a common policy for a minimum standard of pilot training should be created and which would apply to major as well as minor ports. Some of the points that such a common policy could take into account would be, for instance, a psychometric test at entry for aspiring pilots and again at certain intervals thereafter; training in BRM with an emphasis on 'interpersonal relationships' within a multinational bridge team, communicating skills in situations of emergency; simulator based and manned model training prior handling vessels of increased size and draft. Class room training should also be imparted in modules covering safe practices in embarking and disembarking; case studies of accidents and near misses occurring in any port; courses on personal safety and techniques for retrieving a person from the water, familiarization with port's disaster management and contingency plans with participation with local authorities.

Capt Karkare concluded with the recommendation that if pilots were issued special numbers against which their service records could be maintained with the authorities then, if a pilot were to migrate to another pilotage area or port, the pilotage authority at that port would be in a better position to determine the extent and kind of training needed for their new pilot.

Speaker-4: Topic - "Analysis of Incidents for Pilot Training and Safety of Navigation"



Capt Jeff Parfitt, Director- Maritime, CHIRP (a Confidential Human-factor Incident Reporting Program) a nonprofit organization run out of the UK - began his presentation saying that of the many incident and near miss reports their maritime reporting program received from around the world, many were from pilots. What should really be an easy part of the

Capt Jeff Parfitt

pilot's work - of embarking and disembarking from vessels – was rendered fraught with risk due to perennial issues with the rigging of pilot ladders. So CHIRP decided to carry out an analysis of the reports they received last year. These

reports were free from corporate interference, Capt Parfitt added, and represented the view as directly reported by the reporters. The "2019 Analysis of Pilot Ladder Failings", based on 124 reports, is available on CHIRP's website chirpmaritime.org

He shared parts of this analysis informingthat

-62% of the reports concerned vessels that were built prior to the advent of the current amendments to pilot ladder regulations that is, built before 2012. CHIRP queried such vessel's management as to why they had not carry out the needed modifications despite having had plenty of opportunity to do so since 2012. These were met with, what CHIRP considered, unacceptable responses which merely asserted that they complied with previously existing conditions. CHIRP Maritime feels it is incumbent upon shipping companies, classification societies, flag state administrations and vessel crew to ensure that the arrangements are 100% compliant. Anything less is daily putting the lives of pilots in danger.

42% of defects were those of ladders with uneven steps, loose side chocks, ladders in poor condition. This highlights a deficit safety culture and a woefully inadequate level of seamanship as well as a complete disregard for the safety of the pilot who has to use the ladder. Some reports were of defects in manufacture. One such ladder was received coated with varnish!

A third of the reports highlight that the sideropes were supported by shackles, bars or a bracket. All of these methods of securing the ladder are unacceptable. That they are so recurrent points to a widespread lack of understanding of how to properly rig a pilot ladder. CHIRP has received reports from pilots saying they've had to choose between the "lesser of two evils" – a ladder secured in a non-compliant way (with shackles and brackets) or in a "compliant" way but using poorly made hitches or securing ropes of doubtful strength or condition. CHIRP believes that a 100% compliance with any pilot ladder rig should be the only acceptable expectation provided to pilots by vessels.

Almost 50% of the reports relate either to the accommodation ladder itself and/or the pilot ladder not being secured to the ship side as required. Examples of safety culture and supervision in its poorest form in this regard are: the accommodation ladder is less than 5mtrs above the water line, the lower platform not being level, a lack of safety ropes or no stanchions provided on the lower platform or pilot access. CHIRP Maritime finds this is simply inexcusable.

25 reports concerned trap door arrangements in combination ladders. These went to show that it currently is practically impossible to provide a combination arrangement that uses trap doors, which is 100% compliant with SOLAS. CHIRP urges that such arrangements, though approved by classification societies, be modified at the earliest - or abandoned altogether for some other arrangements.

Concluding his presentation, Capt Parfitt said that a good

safety culture, standard of training, seamanship and supervision were all that was needed to prevent most of the instances non-compliant ladders. However issues like rubbing bands being allowed in way of pilot boarding areas on a vessel by classification societies and regulators granting dispensation was a matter of grave concern.

Ship managers, Port State Control, Classification Societies, Flag States should intervene rather than turning a blind eye to the problems highlighted.

The moderator thanked the speakers and then opened the session for questions from attendees.

Here are a few significant questions taken mainly from the "Chatbox"

1. What could be done to build up a safety culture?

A: (by Capt Meyjes): He qualified his response saying his views are Australian culture based. A safety culture needs to be driven from the very top [Board of Director's level he said]. It requires passion, starting from the top. Simply,get everyone to put safety first. Those organizations who don't do this can't achieve a good safety culture.

2. What is preventing uniform pilotage guidelines pan India?

A: (by Capt Karkare) - Pilots need to bring their issues up to the port's management. Change should come from a bottom up approach and taken to the Ministry of Shipping. Some time back, he had helped set up a draftpolicy of pilotage and training for non-major ports. That could still be looked into.

3. How can the lacuna created by "grandfathering" clausesin the Solas 2012 amendments for pilot transfer arrangements be dealt with?

A: (by Capt Meyjes) – He advised to those affected to "say NO". In the case of his pilot's association, they put their foot down when some ship's management "shrugged their shoulders" to their requestto set things right. Sothey engaged with the ship managers and with help of pressure from their port's organization, got the ship to modify the arrangements to comply with 2012 amendments. When Capt Parfitt was asked for his views on the same question, he responded by asking"What does it say for the ship owners/manager's safety culture (when they simply shrug off such concerns)? Where is the empathy for the pilot and the sea farer?" He reminded us of Capt Meyjes' earlier point when he said pilots should just say NO. But doing thatwould first require an enabling culture in that port's. "Many pilots that he knew of, worked in such conditions under duress" he remarked.

Concluding the session, Capt Subhedar said pilotage, being an important part of a port's infrastructure, pilots should therefore get their due and involved in all aspects from design & development of the port and its harbourfront operations.

The seminar ended here and the MC, Capt Rajesh Nambiar began his vote of thanks.

He mentioned a few "take aways" from each session, by no means all of them. AIMPA would deliberate on these take aways and take them into account when submitting its proposals to the regulatory authorities.

Thanks were expressed to: Capt Karanjikar, President, AIMPA; the seminar Organising Committee of AIMPA; seminar partner Mr.SanjeevMehra from IMEI; Capt DK Jha and Capt MP Bhasin and the entire court of the Company of Master Mariners of India; Capt KapildevBehl of the Nautical Instutute, Capt RK Kumar and Capt Ranjeet Cheerath from CHIRP Maritime.



Capt Nambiar acknowledged the presence of several dignitaries amongst the attendees, naming some he mentioned - Ms Jillian Carson-Jackson – President of The Nautical Institute, London; Capt Subhash Deshpande ExC, former pilot Mumbai Port; senior mariners Capt Pritam Mohanty, Capt Soman Mani; Capt Mahesh Yadav – Director, FOSMA; Capt Joseph Alapat; Capt

Rajesh Nambiar

Glenn Saldanha, Shri NMC Nair.

The proceedings concluded with Capt Nambiar giving a special vote of thanks to the media partners M/s Bhandarkar Publications and Marex for their wonderful support.

Last, therefore most important, thanks were extended to the fraternity of all the attendees and viewers– both students, maritime training institute faculty, practicing professionals and seniors.

These are some of the takeaways from the seminar:

1st session:

- 1. Enhance the pilot's profile in a port's organisation,
- Include pilot ladders in local regulations of ports (Dock Worker's Regulations?) to give it statutory force of law. (Lke how Capt Ravi Nijjer said they did in Australia)
- 3. Pilot boat design and construction to be safer and more standardised.
- 4. Improvements in pilot boat crew training.
- 5. Procedures for pilot boarding, pilot communications are main areas which need improvement in our ports.

2nd session:

- 1. Training procedures to be reviewed and refresher training to be included for pilots.
- Training of Indian marine pilots on manned scale models – especially for practicing emergency situations - is a must. Use facilities abroad for now and eventually set up such a facility in India.

- 3. Incident reporting must be undertaken by all marine pilots. A system to set up for this.
- 4. Play an enabling role in bringing about pilot training system as envisaged by Capt Karkare as per the efforts he had some years earlier along with Capt Saggiand others.
- 5. CPD for pilots to be sought.

As reported by:Sanjeev Pande – a senior marine pilot with Ocean Sparkle Ltd, Dahej Port, Gujarat.

Capt Sajeev Pande – Introduction



Capt Pande is from T.S.Rajendra 73-75 batch. He started his sea career with Scindia's until 1986. He then joined KishinchandChellaram's, a Hong Kong based dry bulk ship owning company. Continuing at Chellaram's, he got command in 1989 and left in 2001 to work ashore. He taught for a semester at Tolani Maritime, Pune and then, from 2003, took

up his first love, pilotage, working at several different terminals at Dahej, Gujarat including Petronet LNG. He also worked at APM Terminal's Pipavav Port (10yrs) as a full tonnage pilot.

He is currently a pilot at Birla Copper's terminal at Dahej under contract with Ocean Sparkle Ltd (an Indian towage and marine service provider of repute).

His father being an officer in the Indian Air Force, Sanjeev was schooled at Delhi, UK, Bangalore and finally at Air Force Central School, Delhi.

Though originally from Amravati and Nagpur, he is settled in Pune since the past 40years.

Capt Pande says these days he enjoys quiet reflection, good books and philosophy - the last only in small doses!



CHIRP Maritime – 2019 Analysis of **Pilot Ladder Failings**

15

Introduction.



CHIRP Maritime has often mentioned that by far the greatest number of reports we receive relate to pilot ladders. Some of the more specific reports have been discussed in various editions of Maritime FEEDBACK, or have been the subject of Insight Articles, all of which may be found on our websitewww. chirpmaritime.org.

Capt Jeff Parfitt

What on the face of it would appear to be the simple procedure of rigging a pilot ladder to facilitate embarkation and disembarkation has become one of the most dangerous aspects of a pilot's life. Not only do pilots have to concern themselves with the complexities of their job, from manoeuvring huge vessels under challenging conditions, to routine port arrivals and departures; coping with defective vessel equipment; language difficulties and of course the unexpected emergency, but also they have to deal with what should be the relatively easy part of getting on and off the vessel. The perennial issue of pilot ladder failings is once again the subject of intense debate. Such has been the overwhelming number of reports received on this subject, CHIRP Maritime has decided to analyse the reports received, which are free from corporate interference and represent the view directly from the reporter.

The perennial issue of pilot ladder failings is once again the subject of intense debate.

Many of the pilot ladder and combination ladder reports that CHIRP Maritime receives have recurrent themes, with the same latent failings appearing time and time again. It was therefore decided to produce an analysis of the reports in order to determine the areas in which deficiencies are occurring. The analysis is based upon 124 reports that CHIRP received in 2019. The reports were broken down into the main areas of concern with keywords being utilised to build up the picture of areas which required remedial action.

The following graphs show the results of the analysis, along with discussion points to supplement the findings. Each section of the pie graph shows the number of reports received for each deficient category, (shown in brackets), and the percentage of the sum total of the topic in question. As always, any feedback is appreciated, simply email CHIRP at mail@chirp.co.uk.

Non-conforming ships by age and flag registry.

The first pie chart shows the vessels with ladder deficiencies

that were constructed before the current SOLAS Chapter V Regulations in 2012, and those constructed since. The second chart highlights the vessels by flag state registration. Both charts equate to the sum total of the 124 reports that CHIRP received.

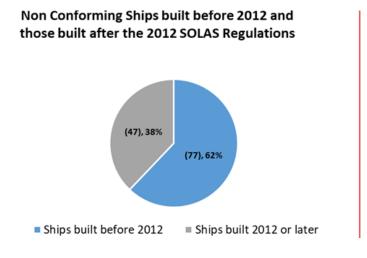
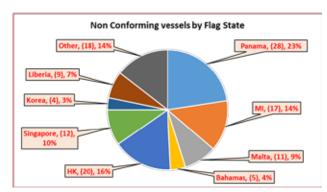


Figure 1 – Non-conforming ships by age.

It is perhaps no surprise that the greater number of non-conforming vessels were constructed prior to the advent of the current Regulations. Neither will there be any raised eyebrows with respect to the second chart after all the larger sections of the pie chart are the larger ship registries. However, this is not the point. All vessels will have undergone a statutory five-year refit since the 2012 regulations came into force and have had ample opportunity to modify their arrangements in order to comply with SOLAS Chapter V. Yet this has not been done. CHIRP would query why this is so and refuses to accept that "We comply with pre-existing older regulations" is a satisfactory answer. The lives of maritime pilots are being endangered day in and day out, so it is incumbent upon shipping companies, classification societies, flag state administrations and indeed vessels' crews to ensure that the arrangements are one hundred percent compliant.

CHIRP refuses to accept that "We comply with pre-existing older regulations" is a satisfactory answer



Note: "Other" consists of 12 Flag States with only 1 or 2 non-conformities

Figure 2 – Non-conforming ships by Flag State.

Reports specific to pilot ladders.

The chart in Figure 3 shows deficiencies of pilot ladders, where a single ladder was utilised for pilot embarkation or disembarkation. CHIRP received 66 reports in this category, which detailed 99 specific deficiencies.

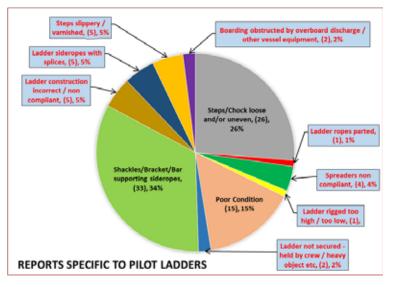


Figure 3 – Reports specific to pilot ladders.

It is a damning indictmentthat 42% of the reports received highlight uneven steps, loose chocks, a ladder in poor condition or, in one case, the side ropes parting completely when weight was placed upon them prior to disembarkation. This highlights adeficientsafety culture andwoefully poor quality of seamanshipas well as indicating a complete disregard for the safety of the pilot who has to use the ladder. It should be noted that a small percentage of the uneven steps/chocks were in fact ladders that were relatively new and manufactured ashore.CHIRP is aware that in some cases this has been followed up by the port or national administration who have contacted the manufacturer(s) in question. The same applies to some of the pilot ladders which have been manufactured ashore and have arrived varnished.

Regarding the pie chart, one third of the reports highlight that side ropes are supported by shackles, a bar, or a bracket. SOLAS does not state how the side ropes are to be secured, but only mentions that the arrangement must be the same or greater strength than the side rope. Brackets or the equivalent may well be stronger than side ropes, but the load usually impacts upon the steps, seizings, or widgets. Thus, the weight of the ladder is now not supported by the side ropes and the arrangement becomes noncompliant. CHIRP notes that some classification societies and flag administrations have issued notifications that these arrangements are illegal on board their vessels.

A recurring theme in reports received is the lack of understanding as to how to properly rig a pilot ladder.

Some pilots have reported to CHIRP that they see the bracket, bar or shackle arrangement as the lesser of two evils compared with the standard of seamanship observed where the pilot ladder side ropes are being "correctly" lashed to the vessels deck. The hitches used have been observed to be completely unsafe and the associated ropework sub-standard (Note that SOLAS 2012 is vague with respect to the actual securing).

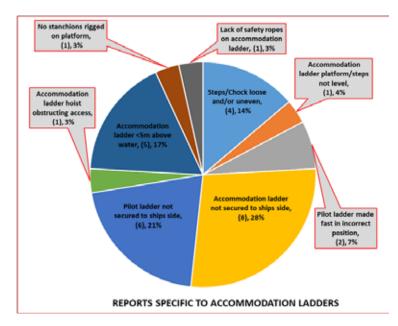
CHIRP strongly believes that pilots should not be faced with "the lesser of two evils", and that one hundred percent compliance with any pilot ladder rig should be the only acceptable expectation

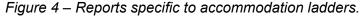
Thus, much of the foregoing comes down to safety culture, seamanship, training and supervision, both on board and ashore – there appears to be a long way to go in this respect.CHIRP strongly believes that pilots should not be faced with "the lesser of two evils", and that one hundred percent compliance with any pilot ladder rig should be the only acceptable expectation.

Reports specific to accommodation ladders.

Figure 4 shows deficiencies related to accommodation ladders with 17 reports received and 29 separate deficiencies highlighted. Almost fifty percent of the reports relate to either the accommodation ladder itself and/or the pilot ladder, not being secured to the ships side as required by the 2012 SOLAS V regulations. Another significant slice of the pie describes the accommodation ladder itself being less than five metres above the waterline. Anything other than a light swell could cause damage to either the attending pilot vessel and/or the accommodation ladder itself.

The apparently repeated report of defective steps and chocks is explained by the fact that the reports highlighted this issue along with other deficiencies specific to accommodation ladders.





The smaller sections of the diagram deserve a mention since they are extremely dangerous – accommodation ladder steps not being level, a lack of safety ropes on the accommodation ladder and no stanchions rigged at the bottom of the ladder at the pilot access are all extremely dangerous. CHIRPMaritime would argue that there is no excuse for this – in dialogue with the reporters, we discovered the vessels concerned had confirmed that the arrangements were ready in all respects to effect a safe pilot transfer. Clearly this is not the case, and in no situation was the vessel being rushed to prepare the arrangement. This is safety culture and supervision in its poorest form.

Reports specific to "trap door" type combination rigs.

Figure 5 shows deficiencies with respect to "trap door" type combination rigs. CHIRP received 25 reports related to these arrangements and the analysis shows a high number of deficiencies, namely 58. The reason for this is not at all surprising. It is almost universally impossible to rig a trapdoor arrangement that is one hundred percent compliantwith the 2012 SOLAS V regulations.

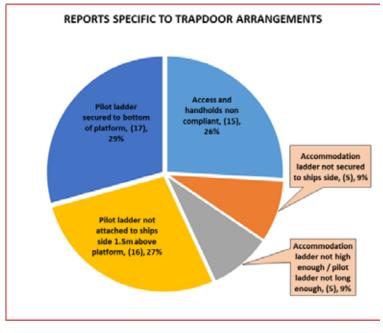


Figure 5 – Reports specific to "trap door" type combination rigs.

The largest areas of failing are the pilot ladder being secured to the bottom of the accommodation ladder, the pilot ladder (often another ladder) not being attached to the ships side 1.5m above the accommodation ladder platform, and access and handholds being-non compliant – this is causing repeated difficulties for the pilots to make the transition from pilot ladder to accommodation ladder.

CHIRP queries all of the above but specifically the pilot ladder being secured to the bottom of the accommodation ladder. Photographic evidence often shows modifications having been made to accommodation ladders, and that lugs have been welded to the base of the ladder to allow a pilot ladder to be shackled on. Despite the fact that this is non-compliant with the regulations, CHIRP asks the question, "Who authorised these arrangements?"

The sooner these arrangements are either modified to ensure full compliance or are removed from service and banned altogether the better

Fully compliant trap door arrangements such as threesided trap door rigs are noted to be few and far between. The general view is that the sooner these arrangements are either modified to full compliance or are removed from service and banned altogether the better. CHIRP fully agrees with this sentiment but assesses that such a change will need to be mandated in clear language to avoid misinterpretation.

Reports specific to manrope deficiencies.

CHIRP received 37 reports where manropes were specifically mentioned, and 45 deficiencies were highlighted. Almost half of the deficiencies related to the incorrect rigging of the manropes. Notwithstanding the nature of the other deficiencies reported, all of the failings came down to a basic lack of seamanship, supervision, safety culture and training. This is one area where any change to pilot ladder regulation is unnecessary – all of the deficiencies can be addressed on board to ensure that manropes are rigged correctly.

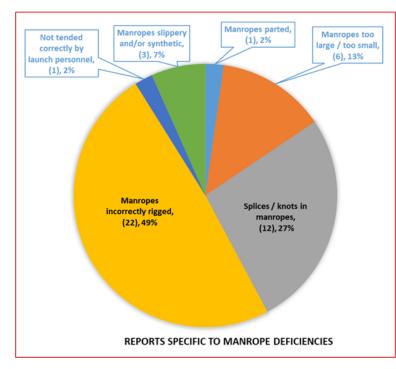


Figure 6 – Reports specific to manropes deficiencies.

The whole chart demonstrates a lack of understanding as to what the manropes are used for, and this requires the urgent attention of vessels crews and their managers ashore in order to rectify the problem.

Sundry equipment deficiencies.

The final chart in Figure 7 describes sundry deficiencies with the equipment. 47 reports were received, and 53 separate deficiencies were noted.

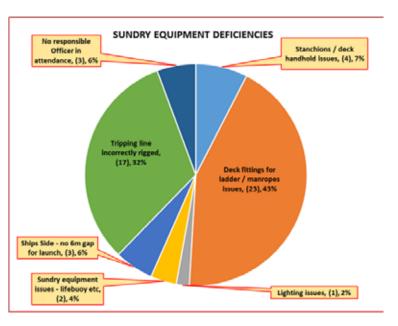


Figure 7 – Sundry equipment deficiencies.

The largest area of failing were the deck fittings (or more correctly lack of) for side ropes and manropes. The deficiencies were noted for both pre 2012 and current SOLAS vessels. As noted earlier, all vessels have had ample time since the introduction of the current regulations to rectify any failings, so the question has to be asked why they have not done so? There is much more to be done by flag administrations, their recognisedinspection organisations, port state control, and shipping companies in order to rectify this area.

Incorrect retrieval lines – often called tripping lines accounted for almost one third of the reports, where the line was rigged in such a manner that it could become fouled upon the attending pilot launch or obstruct the safe access to the ladder for the pilot. The majority of failings were that the line led aft and not forward – also the line was rigged below the bottom spreader. All totally avoidable with a little care and attention.

CHIRPalso highlights the ship side issue where there was no 6m gap in the rubbing bar to allow for safe access for the pilot boat. The vessels concerned were new - one on her maiden voyage – so who allowed them to be constructed in this non-compliant manner?CHIRP often highlights safety culture on board, but this is an example of poor safety culture ashore and a disregard for construction regulations.

Finally, the lighting issues and lifebuoy issues might charitably be attributed to carelessness, or it might be down to a poor safety culture. There is however absolutely no excuse for a responsible officer not being in attendance during the embarkation or disembarkation of a pilot. This highlights a disregard for the safety of any pilot boarding operation and/or exposes deficiencies in crew manning.

Summary.

Overall, the analysis makes depressing reading for any maritime pilot who has had his or her life needlessly endangered when encountering these arrangements. The diagrams show an unacceptable disregard of the 2012 SOLAS Regulations and the accompanying IMO Assembly Resolution A27-1045. They also indicate a low level of awareness and poor seamanship standards, all of which are very much avoidable should shipping managers, port state control, classification societies and flag state administrations intervene and "walk the walk" rather than turning a blind eye to the problem.

CHIRP Maritime intends to follow up with further analyses once sufficient reports have been received in order to determine whether the deficiencies above have been addressed and where the future focus of the maritime sector should be in order to ensure maritime pilot safety.

In conclusion, a clear picture has emerged of the principal failings relating to the rigging of pilot ladders. Apart from the questionable quality of some new ladders – CHIRP queries how these products are deemed acceptable at the manufacturing stage– there is also the issue of seamanship. This leads to some uncomfortable conclusions about the quality of training and supervision at the basic level of a seafarer's skill and the quality control among ship managers.

CHIRPMaritime asks whether the quality of seamanship exposed by the reports meets the minimum standard expected from a competent professional? If the answer is YES, then the accepted low standard of competency and the training process must be questioned. If the answer is NO, then there is a very poor on-board safety culture in place which the ship operator has not correctly monitored or chooses to accept. Either way, the situation is unacceptable and such poor regard and understanding of professional standards and safety culture continues to expose pilots to unacceptable and unnecessary levels of danger.

Jeff Parfitt - Introduction



Jeff is a professional mariner with a career that spans four decades. He commenced his seagoing career with Shell in 1976. In 1996, he moved into the offshore world of dynamic positioning with Co-Flexip Stena and Subsea7, principally serving on dive/subsea construc-

tion vessels operating in the North Sea and on a global basis becoming Master in 2000. Prior to taking up the position as Director (Maritime) with CHIRP, Jeff operated as an offshore marine consultant.

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All India Maritime Pilots' Association

AIMPA wishes all seaferers, maritime pilots and port officials a very



And Happy New Year 2021

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