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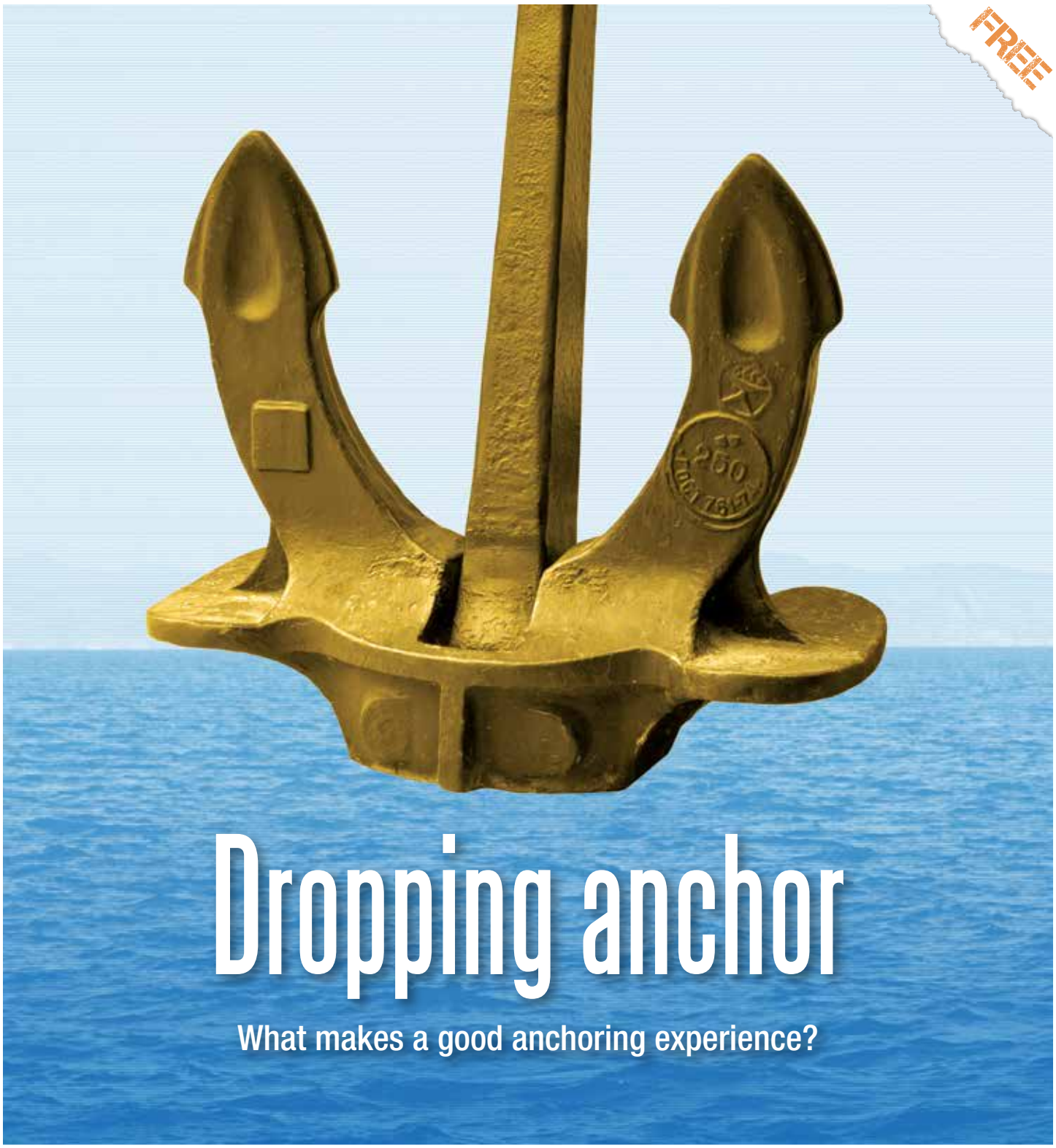
THE NAVIGATOR

Inspiring professionalism in marine navigators

FREE



Dropping anchor

What makes a good anchoring experience?

The Nautical Institute

Royal Institute of Navigation

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NAV BRIEF

David Patraiko FNI
Director of Projects, The Nautical Institute

News hook

Ships rarely anchor, as from a commercial point of view vessels only make money when they are transporting cargo. When they do anchor, it can be a chance for the crew to relax before the hectic time alongside begins, particularly if they have recently experienced heavy weather or traffic.

However, the process of anchoring itself can also include significant risks – with more to follow once the anchor is down. Incidents such as dragging, grounding and collisions in anchorages often feature in insurance claims.

Navigators must also remain aware of anything that might lead to their position changing during anchorage, such as potential interactions with other ships entering or leaving port and other risk factors that could lead to their own vessel dragging anchor and drifting into danger.

A good anchoring experience starts long before the 'hook' is dropped. It goes right back to the passage planning stage, when the anchorage is selected based on charts, tides and weather forecasts. Local advice from pilots and VTS is invaluable.

Even once the anchor is down, the task isn't over. It is important to understand that anchors aren't magic devices that will prevent any adverse incidents from happening; they are only designed for 'temporary use within a harbour or sheltered area'. The professional navigator must maintain good situational awareness while their vessel is at anchor and have carefully planned procedures for emergency response.

Good situational awareness during anchoring depends on assessment by traditional means, such as visual observations, looking at the environmental conditions and visual bearings. It is hugely enhanced by the use of technology, such as radar, GNSS and digital anchor watch systems. Being able to monitor vessels coming and going from an anchorage by using AIS and listening to the VHF ensures that those coming in don't get too close to the anchored ship and those departing give safe space.

Anchoring is often taught via textbooks, but it is not a textbook exercise! Every anchoring event is unique and teaches those involved something different. You do not need to be the Master or a senior officer to learn about anchoring – anyone can watch and learn.

This issue of *The Navigator* gives a good introduction to the basics, but experience is the best teacher, whether it is the second officer mentoring the junior officers on the bow, or the Chief Officer on the bridge observing the Master. Captain Bill Hargreaves FNI describes the planning process in full in his article on page 4, while Captain George Papanelopoulos AFNI explores what a 'good' anchor watch looks like on page 6.

Please pass this copy of *The Navigator* on to others when you have finished reading it, and discuss its contents with your team.

INSIDE THIS ISSUE

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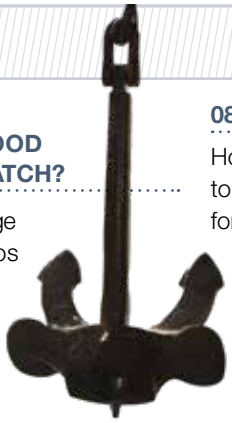

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ALL AT SEA

Emma Ward

We welcome your news, comments and opinions on the topics covered in *The Navigator*

To get in touch with us, please contact the editor, Emma Ward, at navigator@nautinst.org

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https://www.nautinst.org/technical-resources/navigator.html

News anchor

Anchoring is an endeavour that encompasses several different skills and types of knowledge. Read on for some useful links, tips and resources to help you learn more about this essential shipping task.

If you spot any broken links, or would like to suggest resources that we have not included here, please do get in touch!

Know the difference

It is important to differentiate between dropping anchor in normal, routine operations (which is covered in the rest of this magazine!) and in emergencies.

> In normal operations, it is usually better to walk the anchor back rather than let go, especially for large ships and in deep waters. The holding capacity will remain the same, as it depends more on the chain and anchor weight then on the way the anchor is dropped.

> In an emergency, there are many factors to be considered, including the depth, nature of seabed (are there coral reefs, cables or pipe lines?), the size of the ship and speed. If you can still steer, that means you still have significant speed. Wait till you lose steering, and that will lead to less speed. Only then can you let go.

> In a critical situation, where you have no choice but to make an emergency stop: letting go is the only option! Rely on the fact that the winch-breaking capacity is less than the minimum breaking load of the chain and let the winch drum slip so that both anchors can be used simultaneously. It's a critical decision for true emergencies, but it has saved many ships from grounding.

Captain Aly Elsayed AFNI
Senior Technical Advisor, The Nautical Institute

You can read this post, as well as many other valuable contributions and insights on LinkedIn by signing up to 'The Nautical Institute (Technical Group)' at https://www.linkedin.com/groups/1107227/.

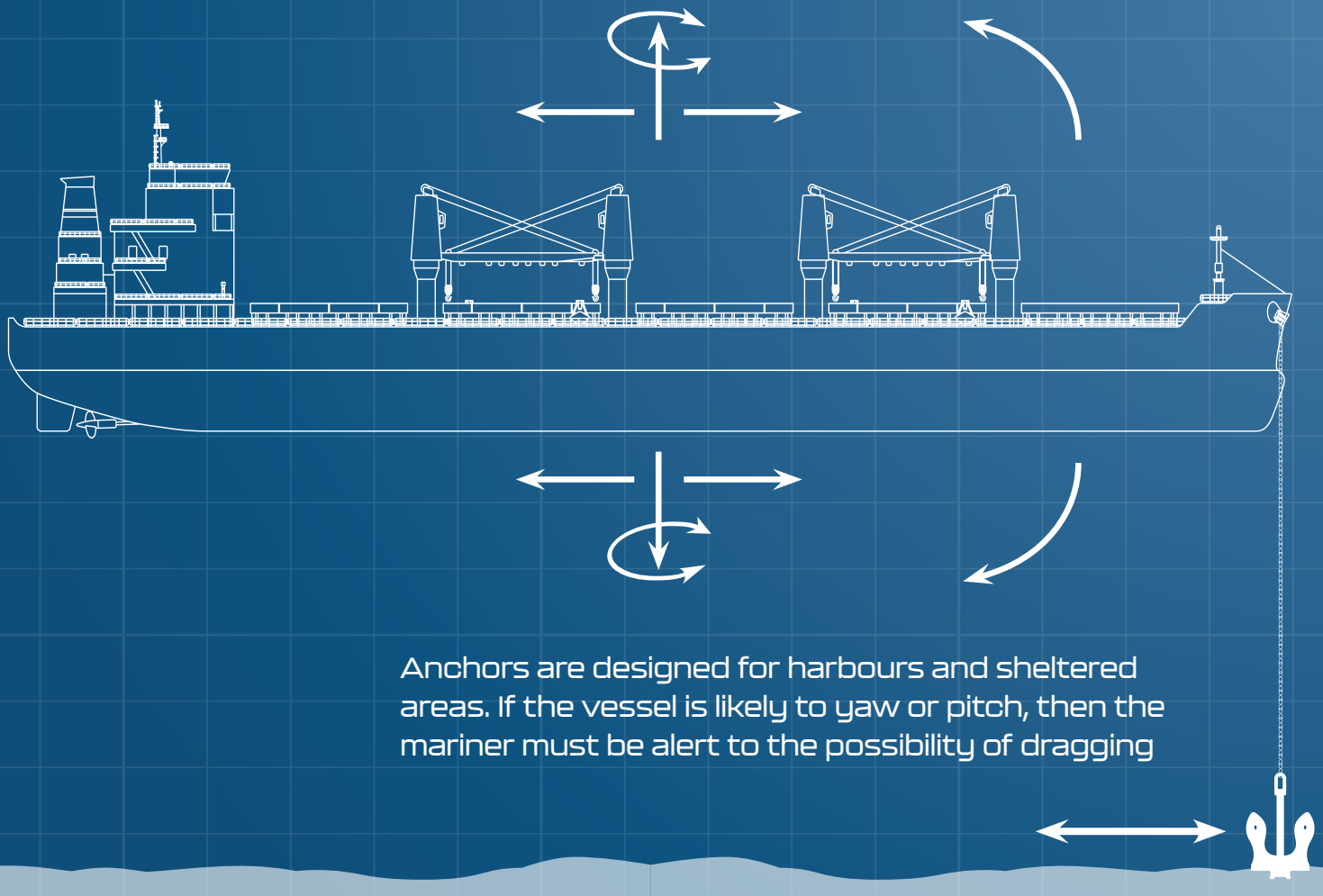
Further reading

There's a lot of good information about safe anchoring out there; here are a few links with more reading. Want to get to them directly? Open the *Navigator* app or visit the pdf on The Nautical Institute's website and you can click right through.

https://www.skuld.com/topics/ship/safety/good-anchoring-practice/
https://www.swedishclub.com/loss-prevention/ship/mooring-and-anchoring/
https://www.swedishclub.com/uploads/2024/10/Gard-AS-Case-study-Anchor-Awareness-.pdf
https://www.ocimf.org/document-libary/131-estimating-the-environmental-loads-on-anchoring-systems/file

The science of anchoring: from start to finish

Most mariners will have spent time at anchor, usually while waiting for orders, a berth or perhaps high water. To understand the perils and pitfalls of using an anchor, it is important to know exactly what an anchor is designed for and when it should be used. In this article, **Captain Bill Hargreaves FNI** describes the process of anchoring, from initial choosing and planning stages to final walking out and letting go



Anchors are designed for harbours and sheltered areas. If the vessel is likely to yaw or pitch, then the mariner must be alert to the possibility of dragging

The International Convention for the Safety of Life at Sea, 1974, (SOLAS) requires that anchor-handling winches and associated equipment should be installed in accordance with the requirements of a properly recognised classification society. Unless designed for a special purpose, the International Association of Classification Societies (IACS) states that: '*anchoring equipment is intended for temporary mooring of a ship within a harbour or sheltered area…The equipment is therefore not designed to hold a ship off fully exposed coasts in rough weather or to stop a ship when it is moving or drifting.*'

Hidden dangers and holding grounds

The SOLAS requirement for passage planning is from berth to berth, or to an anchorage. It is vital to consult up-to-date charts, sailing directions and navigational warnings when planning each stage of a journey along with local advice, if available. When anchoring, it is essential to check the chart, on the largest scale possible, for hidden dangers such as undersea cables or submerged wrecks that could compromise the plan.

If there are any obstructions on the seabed then a prudent mariner must allow a suitable safety margin between the planned anchorage position and any marked obstructions. Bear in mind that global navigation satellite system positions can be subject to error. The undersea cable, for example, may not actually be in the exact position shown on the chart. The nature of the seabed may also indicate whether there is good holding ground. For example, the holding power of rock and mud is less than shingle and sand

Be wary of choosing an anchorage in deep water. The IACS requirements for most vessels are that the anchor windlass must be capable of lifting an anchor in water depths of 82.5 metres, ie the weight of the anchor and three shackles of chain. In deeper waters, it may be difficult to raise the anchor. This could potentially damage the windlass and the vessel may have to steam into more shallow waters when the time comes to raise the anchor. If you have to anchor in deep water, you should first confirm whether the vessel has a Deep Water Anchorage (DWA) notation.

Plans and calculations

The holding power of an anchor, whatever the type, depends on the position of the anchor shank and the flukes digging into the seabed. The plan should ensure that enough chain is paid out that the catenary of the chain leaves the anchor stock lying on the seabed. The amount of chain will depend on the depth of water and the strength of any anticipated wind or current.

One formula to use when deciding on the amount of anchor cable to veer is:

Amount of cable (in shackles) = 1½ √water depth in metres

This is the *minimum* recommended amount of cable to use. More anchor chain will ensure there is reduced likelihood that the anchor will drag. However, in a restricted anchorage, it may only be possible to pay out a limited amount of cable because of the vessel's swing circle. In this case, you should be alert to the increased possibility that the vessel's anchor may drag and plan accordingly, for example, by keeping the engines on immediate notice.

When planning to anchor, the navigator must also consult weather forecasts, predicted sea and swell conditions and understand the likely maximum currents that may be expected at an anchorage. The IACS has made calculations for anchor sizes depending on windspeed, current and ship size, the details of which are readily available online.

Anchors are designed for use in harbours and sheltered areas. If the vessel is likely to yaw or pitch, then the mariner must be alert to the possibility of dragging. A 40-degree yaw can increase the loading on an anchor by a factor of three.

The calculated under-keel clearance (UKC) must also be considered. The force of the current acting on the vessel will increase as the UKC reduces. Consequently, if there is a tidal range, there may be an increased possibility of the vessel dragging at low water, due to an increase in these forces as the UKC reduces.

Deciding not to anchor in a certain location is also part of the planning process.

Anchors away!

Assuming that, after thorough risk assessment, the Master decides to anchor, the first action is to ensure that everyone involved is properly briefed, (eg which anchor, number of shackles, correct PPE, etc.) As the vessel approaches the anchorage, the anchors are cleared of their sea fastenings.

While it is possible to let go an anchor on the brake from its stowed position ('from the pipe'), the prudent navigator will walk out the anchor (lower it under power) to just above the water. This ensures that the anchor hasn't stuck in the hawse pipe and prevents the (admittedly small) chance of damage to the hull. It is good practice to only walk out the anchor when the ship's speed is very low, in case the brake fails and the anchor is let go (released from the brake) inadvertently. An unplanned dropping of the anchor could cause damage to the windlass, lead to the vessel sheering dangerously or damage subsea installations, such as pipelines or cables.

On larger vessels the anchors can weigh many tens of tonnes, and the prudent navigator will want to minimise the risk of the anchor cable paying out too quickly. This would make applying the windlass brake to control the cable speed very difficult, if not impossible. Larger vessels, typically over about 30,000 tonnes deadweight, should either walk out the anchor to the seabed and then let go or, alternatively, completely walk it out. If the anchor is walked out to the seabed, the chain should be stretched to ensure the anchor flukes penetrate the seabed properly.

Whether an anchor is let go or walked out, the speed of the vessel over the ground must be slow. The vessel should ideally be moving astern when the anchor touches the seabed. Too fast and the anchor will drag and, if walking out the cable, may cause damage to the windlass. However, the vessel's speed over the ground must not fall to zero. If the speed is zero, the anchor cable will pile up on the seabed and the cable will not be properly stretched. Furthermore, the chain could become tangled, causing problems later on when the anchor is retrieved.

Once anchored the vessel's swinging circle should be plotted and a safe anchor watch maintained. Finally, don't forget to exhibit a black ball and the appropriate anchor lights!

What does a 'good' anchor watch look like?

Whether you're in a quiet bay or outside a busy harbour, a vigilant anchor watch ensures that your vessel remains safely in place, no matter what the weather or surrounding conditions throw at you – but what does a good anchor watch actually look like in practice? From understanding the forecast and observing your surroundings to using the right tools and responding quickly to emergencies, it's a mix of oldschool seamanship and modern technology, says training manager and HR/crew specialist **Captain George Papanelopoulos AFNI**

Being at anchor is one of the most peaceful moments on a vessel, but it can also be one of the most vulnerable times during a voyage. Once the anchor is down, the vessel should stay put, but how do you ensure that? The answer lies in establishing a good anchor watch. How is this achieved? Let us break it down into stages.

Setting the stage

A good anchor watch starts long before you drop the anchor. It begins with understanding the conditions you are about to face. A weather forecast is not just a casual check; it forms the foundation of your anchoring plan. When you know what to expect, you can make better choices around where to anchor and how much anchor chain to let out. Here are three key areas to include in your pre-anchoring forecasting.

Wind: Wind can make or break an anchoring situation. Strong winds or sudden gusts can cause the vessel to drag its anchor (especially in light ballast condition). By checking the forecast, you can anticipate shifts in wind direction and strength and position your vessel accordingly. Anchoring in a sheltered position or bay, for example, can minimise the risk of dragging caused by wind.

Tides: Understanding the tides is equally important. As water levels rise and fall, your vessel's position will change. If the tide comes in and the vessel is anchored too close to shore (always follow your company's navigation policy), it might drift or even run aground. Knowing when high and low tides will occur enables you to set a good scope and avoid unpleasant surprises.

Currents: In certain areas, strong currents can make your vessel shift position despite your anchor's best efforts. The forecast can help you understand how strong these currents might be and whether they will affect your vessel's position. If needed, you can take extra precautions, such as letting out more anchor chain or adjusting your anchor placement.

Having a solid understanding of these environmental factors sets you up for a much safer anchoring experience. However the work doesn't end there; it's just the beginning.

Eyes on the horizon

Once the anchor is down, it is time to keep a careful watch. Technology is great, but there is still no substitute for your own eyes when it comes to monitoring your vessel's position.

Check anchor position: A simple way to keep track of your ship's position is by looking at the surrounding landmarks or other vessels. If you've anchored in a bay, for example, pick a few distinct landmarks on the shore that you can use to check if you're drifting. If they start to move, you know it is time to take action. The electronic bearing line (EBL) and variable range marker (VRM) on the radar are a great help here; pick a couple of landmarks and place the lines.

Watch the weather: Weather can change rapidly, especially when you are on the water. If the wind picks up or dark clouds start rolling in, it is time to re-evaluate. By keeping an eye on the weather, you can anticipate problems before they become too serious. Remember, when you are in doubt, call the Master! Don't wait and lose valuable time.

Other vessels: If you're anchoring in a busy area, it is important to keep track of nearby vessels. If another vessel starts dragging its anchor or gets too close to you, it could pose a danger. A good anchor watch is not just about sitting on the bridge and hoping for the best. It is about being present, aware and always ready to notice if something changes.

Smart tools and technology

Modern electronics can make your anchor watch easier and more reliable. Using tools that are designed to keep track of your position means that you no longer have to do all the heavy lifting. While they are useful, however, they shouldn't replace your own awareness. The best anchor watch is always a combination of technology and human vigilance.

Anchor watch systems: Many vessels come equipped with anchor watch systems that track your position using GPS. These systems set up an invisible 'boundary' around the anchor. If your vessel moves beyond that boundary, the system sounds an alarm. This gives you peace of mind, especially when you are busy with other tasks on board.

A GOOD ANCHOR WATCH IS NOT JUST ABOUT SITTING ON THE BRIDGE AND HOPING FOR THE BEST. IT IS ABOUT BEING PRESENT, AWARE AND ALWAYS READY TO NOTICE IF SOMETHING CHANGES

Automatic Identification System (AIS): AIS can help you keep track of other vessels in busy waters. It allows you to know the positions of nearby vessels, even if they are out of sight. It is especially helpful in crowded anchorages where the risk of other vessels dragging anchor is higher. Knowing where other vessels are anchored can help you avoid collisions.

Orders and communications

The Master should make sure that everyone on board knows what to do in case things go wrong (pay attention to SMS emergency procedures and checklists). If the vessel starts drifting, the officer on watch should know exactly who to call and what information to provide. Having procedures in place makes sure everyone stays calm and effective when problems arise.

Emergency procedures

Even with all the right planning and systems in place, things can still go wrong. A good anchor watch is not just about monitoring your vessel. It is also about being ready to react when needed.

Deploying a second anchor: If your primary anchor isn't holding, deploying a second anchor is a quick and effective way to prevent your vessel from drifting too far. This can buy you time while you assess the situation or take additional action (this can be tricky and only experienced Masters should perform this action).

Standby engines: If things are getting critical, having the engines on standby can help you regain control of the vessel. While you may not want to start the engines unless necessary, keeping them ready to go gives you another tool for managing an anchor failure.

Adding extra anchor chain: If the wind picks up or the current becomes stronger than expected, adding extra anchor chain can increase the holding power of your anchor, even under tougher conditions.

Raising the anchor: If the anchor is dragging and none of the methods above work, you may need to raise the anchor and reposition the vessel to a better holding ground. While this can be a more involved process, sometimes it is the only way to keep the vessel safe.

Alerting other vessels: If you are in danger of drifting, it is important to alert nearby vessels. Use your radio or visual signals to communicate with others and help avoid collisions and prevent further trouble.

A balanced approach for peace of mind

A good anchor watch is about more than just staying awake while your vessel is anchored. It is about staying alert, prepared and ready to act if anything goes wrong. By adopting a good approach to anchoring, you can enjoy your time at anchor with peace of mind, knowing that your vessel is safe and secure. After all, a good anchor watch is not just about keeping your vessel in place; it is also about making sure everyone on board can rest easy, knowing they are in safe hands.

WATCH-OUT

In this series, we take a look at maritime accident reports and the lessons that can be learned

Dragging anchor during strong winds leads to collision

What happened?

Two bulk carriers were at anchor awaiting berthing instructions, a safe distance away from each other. High winds had been forecast in the area for later that night, but the crew on one of the bulk carriers was unaware of this fact. When the wind picked up, the vessel began yawing as it was hit by strong gusts, causing its dragging anchor alarm to sound. The OOW noticed their vessel starting to drift towards the second bulk carrier and called the Master. A further two shackles were quickly paid out on the starboard anchor chain. The crew also attempted to deploy the port anchor, but was unable to do so.

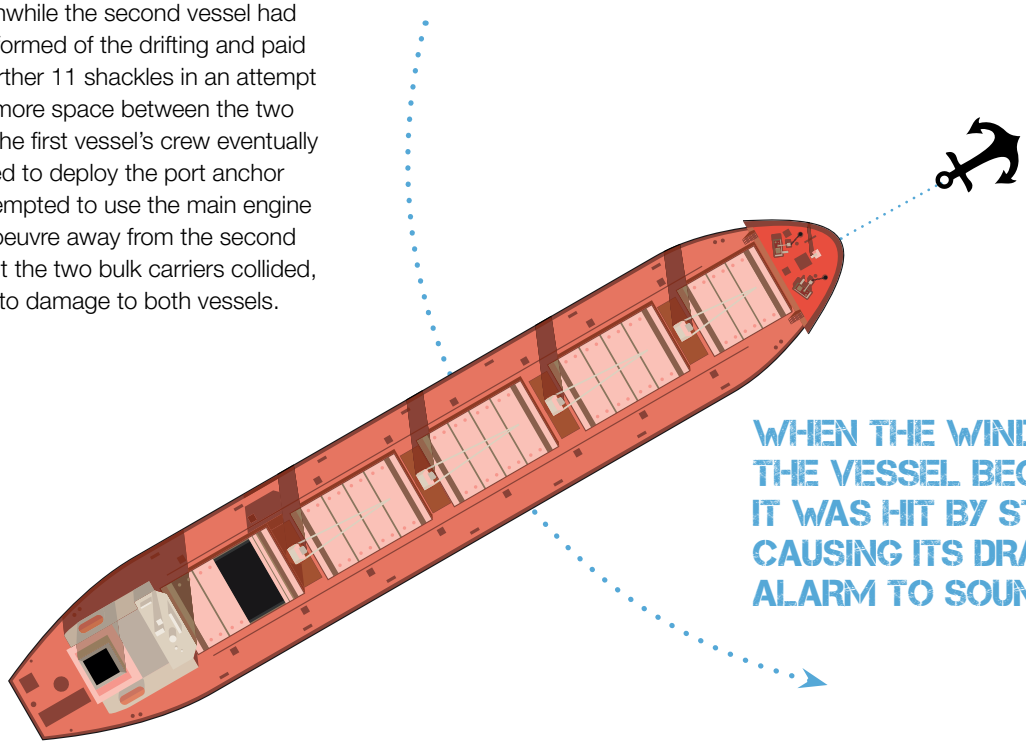
Meanwhile the second vessel had been informed of the drifting and paid out a further 11 shackles in an attempt to add more space between the two ships. The first vessel's crew eventually managed to deploy the port anchor and attempted to use the main engine to manoeuvre away from the second ship, but the two bulk carriers collided, leading to damage to both vessels.

Why did it happen?

> The crew of the first bulk carrier had not considered the impact of high winds or heavy weather on their anchoring decisions.
> The crew did not collect the local weather forecast from the VHF radio, weather fax or MF broadcast.
> Neither had the crew obtained up-to-date weather information for the local authorities.
> This lack of preparation and information meant the crew of the first vessel was unable to mitigate against the effects of heavy wind and strong gusts on their ship in time to prevent serious yawing, drifting and collision.

What lessons were learned?

> Weather forecasts are a key part of situational awareness during both the passage planning stage and on the day itself while at sea or during anchoring.
> The Master and OOW must prioritise weather awareness while at anchor and heed any and all warnings in plenty of time to take action wherever possible.
> Despite a vessel having a strong engine and anchor, limited spaces in some anchorages can seriously limit options during strong winds and heavy weather. A ship is safer at sea than at anchor in some situations.



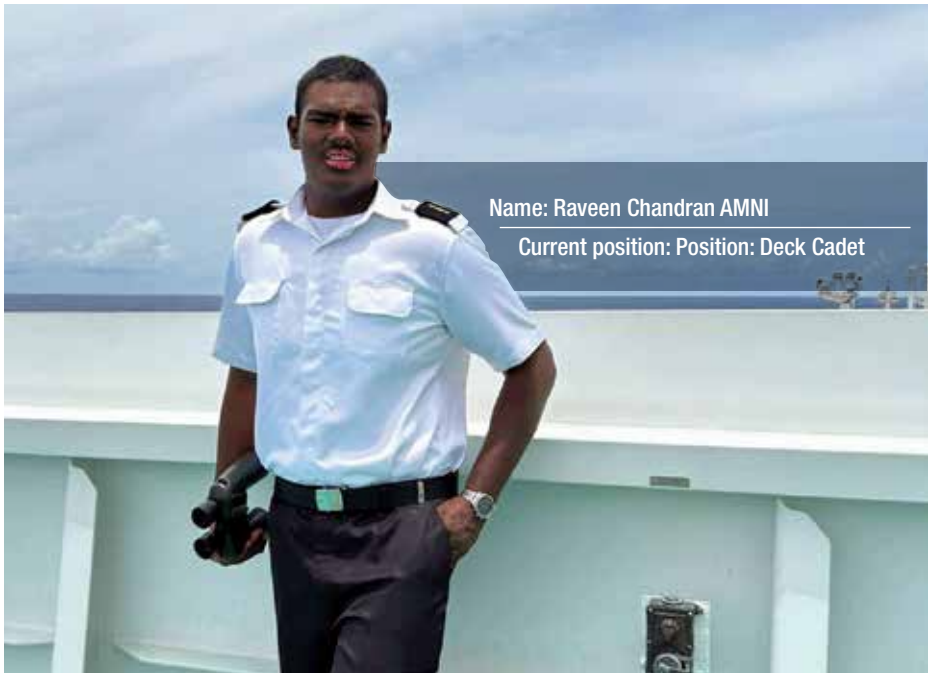
WHEN THE WIND PICKED UP, THE VESSEL BEGAN YAWING AS IT WAS HIT BY STRONG GUSTS, CAUSING ITS DRAGGING ANCHOR ALARM TO SOUND

Read the full report at https://www.nautinst.org/resources-page/202216-dragging-anchor-due-to-wind-ends-in-collision.html

The Nautical Institute's Mariners' Alerting and Reporting Scheme (MARS) - *https://www.nautinst.org/resource-library/mars.html* - comprises a fully searchable database of incident reports and lessons, updated every month. If you have witnessed an accident or seen a problem, email Captain Paul Drouin at mars@nautinst.org and help others learn from your experience. All reports are confidential – we will never identify you or your ship.

Getting started: a deck cadet's first experience on board

Deck cadet **Raveen Chandran** vividly remembers his first experience on board ship. Here, he recalls the warm welcome and friendship he received, and how the learning process gave him the confidence to pass on his knowledge to others.



It all started at home in the morning, carrying my two pieces of luggage, feeling a pinch of excitement deep within me. I was driven to the pier, where I met nine different people from various countries. As I walked up the gangway, many eyes were on me and I felt shy and nervous. I still remember how I almost got crushed by the ship's lift because my luggage wouldn't fit into the tiny space left.

The first problem I encountered was that I couldn't find my cabin. That was the only time I saw the captain carrying my luggage to my cabin. I felt guilty, but at the same time, I had some hope that there was someone to guide me. It was a whole new feeling for me; I just couldn't explain it in words. My plan was to read a book and remain in solitude, as I wasn't comfortable talking to anyone yet.

JUST LIKE THAT, I KNEW THIS TRIP WAS GOING TO BE GOOD. MAINTAINING THIS ATTITUDE EVERY DAY MADE IT EASIER TO BEFRIEND OTHERS

Not long after, there was a loud knock on my door. Thinking I had made some mistake in the first few hours, I was surprised when the whole crew showed up at my cabin, encouraging me to play darts with them. At that moment, all my nervousness dissolved and I felt welcomed. Just like that, I knew this trip was going to be good. Maintaining this attitude every day made it easier to befriend others.

Days and months passed, and my learning became more in-depth. I thought I knew the basics of the COLREGS until the mate asked me what the mass of the striker in the ship's bell was. That was when my research deepened, and my drive to learn increased exponentially. Soon came cargo operations, where I was asked various questions every Sunday, from vague queries about LNG to detailed questions about compressors. I believe my technical skills improved significantly compared to the beginning, when I couldn't even hold a spanner correctly or tighten bolts properly. It also enhanced my critical thinking skills as I was given mini-projects about lifeboat safety aspects on board.

I visited countries like Japan, China, Australia and my home country, Singapore. I've always heard that a cadet is the lowest rank and must find their own way to learn all the answers, but I was lucky to have a captain and a mate who kept me on my toes by asking questions and providing in-depth knowledge about both navigation and cargo work. The secret is to always ask; there's never a stupid question on board.

It doesn't end there! As part of The Nautical Institute, I've managed to attend conferences, build new networks and, of course, share my experiences with new cadets who have yet to go on board. I'm also currently the vice president of the maritime club at my school, which consists of maritime business and engineering students and deck cadets like myself. I keep myself busy revising the knowledge I gained on the first ship, sharing it with other deck cadets and attending meetings for the betterment of maritime students.

George Shaw FRIN

Safer anchoring in a sea of navigational uncertainties

George Shaw from the Royal Institute of Navigation explores ways in which technology can enhance safety during anchoring and emphasises the importance of using 'all available means' to cross-check data and enhance situational awareness

Safe anchoring requires trustworthy navigational inputs. Historically, seafarers depended on the sextant for coarse position measurements and used paper charts that offered limited information. Today, even with greater certainty in measurement and using electronic charts, navigators' skills and awareness remain important safeguards during an anchoring operation.

Navigating the approach to anchorage requires accurate absolute positioning and associated speed-over-ground (SOG) and course-over-ground (COG) measurements, all of which can be derived from GNSS. These figures provide mariners with crucial indications of the vessel's true vector, giving them the ability to stem the current and anchor successfully with near-zero SOG.

GNSS appears to provide more than enough accuracy to support anchoring comfortably. However, GNSS has little inherent integrity or resilience, meaning that navigators must always deal with uncertainty over potentially hazardous measurement errors.

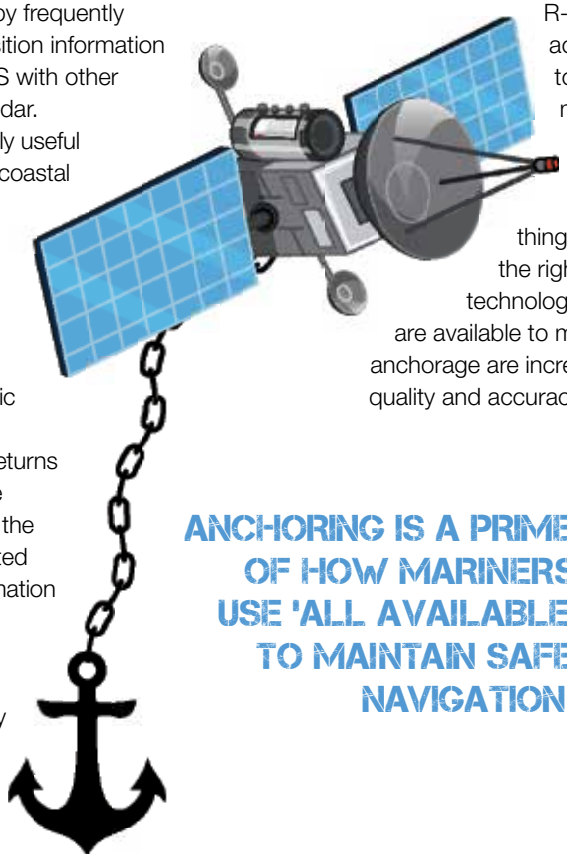
Increased resilience would mean maintaining adequate navigation capability even when there is GNSS interference or jamming, while better integrity would counter the effects of GNSS system faults and alert the mariner if the likely position errors exceed safe limits. A number of solutions are in development as a back-up to GNSS when degraded or denied by interference. However, it may take years for vessels to be equipped with and benefit from type-approved receivers to these standards. In the meantime, it is important to be aware of potential errors.

Anchoring is a prime example of how mariners must use 'all available means' to maintain safety of navigation.

For example, large errors in GNSS-based positions can arise simply as a result of local signal reception (or lack of it). This is especially true for coastal anchorage and positions that are close to shore infrastructure and other vessels where GNSS reception may suffer from signal blockage or reflections (multipath effects). Navigators must learn to counter such uncertainties by frequently cross-checking position information received from GNSS with other sources, such as radar.

Radar is extremely useful during anchoring in coastal waters, providing cross-checks of the vessel's position. By extending the variable range marker (VRM), rotating the electronic bearing line (EBL) to conspicuous fixed returns and laying the range and bearing lines to the corresponding charted objects, radar information can be compared with GNSS position for greater overall accuracy and quality of information. While at anchor, creating a future estimated position (EP) on the ground stabilised radar picture will indicate a true vector. If set over an appropriately long time interval, this can provide an early warning of the anchor dragging.

IMO is developing a set of generic performance standards for shipborne satellite navigation receivers (for multi-constellation GNSS and maritime satellite based augmentation services) and considering terrestrial navigation positioning systems (VDES R-mode) that can act as a back-up to GNSS. While it may take a while for these to become widely available, things are moving in the right direction. The technological means that are available to mariners during anchorage are increasing in number, quality and accuracy.



ANCHORING IS A PRIME EXAMPLE OF HOW MARINERS MUST USE 'ALL AVAILABLE MEANS' TO MAINTAIN SAFETY OF NAVIGATION

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TAKE 10

Ten top tips for safer anchoring, better planning and honing your anchorage skills for the future

1
Relax…
Time at anchorage may offer seafarers respite away from the challenges of adverse weather and heavy traffic at sea.

2
…Don't do it
Don't relax too much, that is! The process of anchoring and being at anchor are not without risk and can account for many insurance claims. Continually monitoring your position and those of nearby vessels 'by all available means' is crucial.

3
Planning makes perfect
Being aware of good and safe anchorage processes should be a key part of passage planning, even as a contingency planning exercise.

4
Forewarned is forearmed
Check the forecast for weather, wind, areas of lee, tide range, currents and any expected changes in conditions well before anchoring commences.

5
Limited capacity
Anchors are not magic. They are designed for temporary use within harbours and sheltered areas. Anchors may be part of your emergency response plan, but the chain, windlass and anchor itself all have their limits.

6
Deep water
Anchors and chains can become very heavy in deep water. Care must be taken when dropping and retrieving the anchor.

7
Contingency planning matters
Always have contingency plans in place when standing an anchor watch. These may include calling the Master, putting engines on standby, letting out extra chain, dropping a second anchor and alerting other vessels/VTS in the area.

8
Monitor
Constantly monitor your own position (and that of other vessels nearby) using all visual and technological means available to you. Listen to the VHF and VTS to anticipate the movement of other vessels into and out of the anchorage.

9
Anchoring awareness
Shipowners and Masters should ensure that Chief Mates get the opportunity to be mentored in anchoring while on the bridge in order to hone their skills for the future.

10
Observe and understand
All bridge staff can learn from every anchoring experience; watch what works well, discover how risks are mitigated and never hesitate to ask questions – after the event.

LIKE OUR TOP 10 TIPS?

Find the others at https://www.nautinst.org/technical-resources/navigator.html

WIN AN IPAD

Just post a picture of you with your *Navigator* on Instagram, including the hashtag **#NAVsnap**, or send us a message on Facebook with your photo attached (www.facebook.com/thenauticalinstitute) and tell us the name of your ship or your college, if you have one. Let us know if you're a member of The Nautical Institute, too (everyone gets entered in the draw, whether you are a member or not!) Or send us the information in an email!

AND THE WINNER THIS ISSUE IS...

Congratulations to this month's winner, Efren Sy. Efren comes from the Philipines, and is studying at the Australian Maritime College. He writes, "A good read, good source of learning and improvement especially for school assignments." We're glad to help!

Efren Sy
NAVIGATOR CHAMPION