Navigation Assessments

How a view from the outside can help everybody improve

A free publication by The Nautical Institute in association with the Royal Institute of Navigation
Assessments, ahoy!

As professionals we all want to be the best navigators we can be, to ensure safety, environmental protection and for the commercial success of our companies. Being a good navigator takes years of training and experience. We are assessed for our STCW Certificate of Competence (CoC); assessed when we do short courses and, to a lesser extent, by onboard audits such as Port State Control (PSC) and charters. However, accidents still happen and many people in the industry have been discussing how a mariner who has been trained and assessed and who works within the company Safety Management System (SMS) can still have navigational accidents.

Assessments are an opportunity to look at how navigators actually work as a team on board, rather than just in a simulated environment. One of the best ways of refining our navigation skills is to be mentored by those who observe us and can offer suggestions for improvement. However, such mentoring is not always available. Also, it can be difficult for the bridge team as a whole to have an objective view of how it is performing against industry best practice.

This is why many shipowners and managers are now engaging independent navigation assessors to ride with ships on short voyages to observe the bridge team in operation and offer suggestions for improvement. Importantly, a navigation assessment is not the same as an audit. There is no pass/fail result. Instead, it is a way of ensuring continuous improvement. Having an assessor riding on board for a few days allows time for the bridge team to become comfortable with their presence (and to act natural), and gives the assessor time to view the full team in a variety of conditions, such as day, night, in traffic and with a pilot onboard.

A good assessor will be an experienced navigator themselves (most likely a Master) who will have been specifically trained in navigation assessment to create a professional environment aimed at improving skills and techniques.

Onboard assessments are not only for the shipowner to ensure that their ships are observing best practice. Navigators should use them to improve their own performance and skills. An assessment should ensure that communication is good, technology is being used to best effect and that the onboard procedures are fit for purpose. A good assessor should not get in the way or distract you from active navigation, but there will be appropriate time to discuss your skills with the assessor and to learn about new techniques that may be developing in the wider industry.

Articles in this issue of The Navigator will give you further information on how assessments are carried out and how to make best use of them for the professional development of yourself and your team. It might also be interesting to explore the possibility of becoming an assessor yourself as a career path, or even just to improve your mentoring skills on board.
We are delighted to say that this issue of The Navigator is our twentieth edition! When we launched back in October 2012, we little imagined the incredible support that our magazine would receive from readers all around the world. Thank you for playing your part in our growing Navigator community over the past six years, and for helping us to promote professionalism and navigational best practice around the world.

Emma Ward
Editor, The Navigator

I received the latest edition of The Navigator in the post today and was pleased to see an article on keeping a proper lookout. It seems so simple and yet, repeatedly, I see instances where I don’t think it’s being done that well. I like to appear on the bridge from time to time at night and ask what the vessel coming up right astern of us is doing. We are not so fast, and most conventional cargo vessels would overtake us. After a brief flurry, I can ‘be mistaken’ and it’s just the crane hazard light etc. The point is made, however. As the article says, radar and ECDIS are not infallible; there are blind spots etc.

Bruce Jacques
Master, Australia Marine

I learnt my lesson a long time ago as Third Mate on a containership doing 20+ knots. I was under the illusion that nothing could overtake us. That changed when one day in the China Sea we were overtaken by another containership doing 30 knots. It frightened the life out of me and from then on, I kept a better lookout!

Captain Mark Taxis
Marine Consultant

I’m a new deck cadet from China. It’s my first time on board and I’m a little nervous and excited. I love sailing and enjoy the feeling of navigation very much. I appreciate The Navigator because I have learned so much from it. I will work hard and become a competent OOW as soon as possible. Thanks a lot!

Wenhao Xia
Deck Cadet, Landbridge Majesty

**Editor’s note:** Readers around the world tell us what they enjoy about The Navigator – we love hearing from you!

Good day! I am currently a Third Officer and I have been an avid fan of The Navigator ever since I was a deck cadet. The magazine has been my cabin partner and I have learned a lot of things from its various issues. I hope that you will continue to spread knowledge and inspiration, especially to us ‘newbies’ in the seafaring profession.

Michael Rosal
Third Officer, M/T Jaguaroundi

I have been enjoying reading The Navigator magazine on a regular basis. Before my competency exam, I studied and took notes from it to help me prepare. I especially like the Take Ten page and your top ten tips. The magazine is informative and a good read for all ranks.

Shadab Dingankar
Second Officer, M/T BTS Selena

We welcome your news, comments and opinions on the topics covered in The Navigator. We reserve the right to edit letters for space reasons if necessary. Views expressed by letter contributors do not necessarily reflect those held by The Nautical Institute.

Find us on social media and let us know what you think #NautInst
We talk to Captain Mark Bull FNI, a navigation assessor with many years’ experience, about what goes on during an assessment and what he is looking for.

**Why do we need navigation assessments?**

When we review all the activities and operations that are carried out onboard ship, the single most important one is navigation. Despite this, it has been allowed to lose some of its importance – 50% of all accidents involve navigation in some way. This is because nobody has been looking at it consistently and, sometimes, nobody has been providing support for the people actually doing the navigation.

A navigation assessment is not just about what happens onboard! As assessors, we are looking at the complete spectrum, starting with the regulations and company policies that are designed to make going to sea safer right through to observing what the officers onboard are doing and how well they are doing it.

As assessors, we favour an holistic approach. An assessor is not just looking for nonconformities with procedures; they want to find out if the procedures are clear and easy to follow. Assessors should also be providing training and mentoring, helping navigating officers improve their own skills. We’re not looking to find blame, but to assist and motivate to help everyone improve.

**Who should carry out a navigation assessment?**

The person who does the navigation assessment should have either held command themselves, or have been a pilot, so they can understand in-depth the things that go through a Master’s mind. After all, it’s the Master who is driving the navigation of the ship as a whole. The assessor needs to be understanding in an empathetic way – and they need to be able to work with and help the captain as much as the junior officers.

**What goes on during a navigation assessment?**

The ideal navigation assessment takes place over the course of a voyage, starting and finishing in port. This allows the assessor to watch preparations for sea, sailing with a pilot onboard, carrying out close navigation in a river or estuary, coastal navigation, ocean navigation and then the entry back into port again. We observe everything that happens, although the navigating officer does receive the lion’s share of our attention.

Essentially, all you’re going to see is somebody from outside the ship arrive on the bridge and then remain present in the background. It is not the type of assessment that comes with a formal interview. Rather, the assessor will observe what goes on, and only very occasionally at the end of the watch will they come.
and ask questions. There is no need to do anything at all differently to how you would usually do it – the whole point is to observe how things are usually conducted on board ship.

**What sort of things are you looking for?**

- Are the regulations clear and understood?
- Are the company’s procedures clear and easy to follow, and are they fit for purpose?
- Are crew members following these procedures – and if not, why not?

Assessors can help the navigating officer a great deal by identifying differences between what the procedures technically require, and what they are actually meant to do in practice. New technology in particular has brought about a whole series of challenges, which are not helped by grafting old methods onto new models.

For example, companies often issue very strict procedures to safeguard position fixing, but get it completely wrong. An ECDIS screen is relatively small compared to a paper chart, so it is essential that we keep it clean of unnecessary text and data. That means ECDIS must be used in a dynamic way, and responsibility shifts to each officer understanding what they are looking at, and what settings are enabled and disabled, rather than having all settings switched on all the time. The assessor can feed this type of issue back to the company and get those procedures changed for the better.

As well as feeding observations back to the company, an assessor can talk to officers and help them develop their own skills. Some of the traditional ideas still hold true – such as using leading marks and visual references when coming in to port – but they may not have been included in standard training.

Another strong point of the assessment process is that it gives people the opportunity to ask questions and check their own understanding of how things work. Because the assessors are, or have been captains or pilots themselves, an assessment gives the captain of the vessel the chance to speak in private to a fellow captain. It offers a valuable opportunity to ask questions that they might have been unable to ask before, and maybe solve a doubt or two in so doing.

**What does the assessor get out of it?**

Personally speaking, I have learnt a lot from people onboard a vessel being assessed. Many junior officers have now moved beyond the point where they are starting to become familiar with their ship’s ECDIS, and are using many of the additional facilities that it has to offer. These keen second mates have really shown me how to use the ECDIS. Even after the assessment is complete, a lot of companies come back to me and pass on useful information like this, so the learning gets shared across the wider fleet and industry. I’ve met some marvellous people on the courses and the ships – and am still in contact with some of them years later.
Anticipating assessment: What you can expect

Navigation assessments are becoming increasingly common on ships’ bridges as shipowners improve their operations. Captain Yves Vandeborn AFNI of The Standard Club says deck officers should welcome them as a key part of their continuing professional development.
Navigation assessments have been carried out on ships’ bridges for many years – and they are certainly nothing to be afraid of.

The key point is that assessments are a lot more positive, constructive and interactive than a pass-or-fail, box-ticking audit. The fully independent assessor will spend a number of days closely observing how the bridge team performs during a short sea passage, including how they communicate with each other (and the pilot), how they check and use equipment and how well they follow operational and record-keeping procedures.

According to The Nautical Institute, ‘five days onboard is the ideal time as this allows full observation of the watch-keepers, gives time for several group training and discussion sessions and enables both night-time and daytime observations.’ The Oil Companies International Marine Forum (OCIMF) says, ‘Assessments should last as long as is necessary for an in-depth assessment of the navigational practices and skill sets of the bridge team to take place.’ It will not always be possible or cost-effective for the assessor to stay onboard for five days, but The Standard Club considers two days to be a bare minimum requirement for any navigation assessment to be worthwhile.

Why assessments are needed

Navigation-based accidents now account for 38% of maritime casualties, according to the European Maritime Safety Agency (EMSA). Nearly all these accidents occur on ships with International Safety Management (ISM) Code-compliant safety management systems (SMS) and involve deck officers certified competent according to The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW).

Clearly there is a gap between ISM/STCW aspirations and reality. There are various reasons for this but, in The Standard Club’s opinion, a key issue is deck officers having insufficient experience, which means they can lack the knowledge and confidence to do things properly. We have been conducting our own navigation risk assessments for many years and witnessed a lot of non-SMS-compliant behaviour at all levels in the bridge team.

Interestingly, when hazardous behaviour has been observed in inexperienced junior deck officers, it has frequently occurred with the silent approval of senior deck officers present on the bridge. Examples include:

- Failure to do routine instrument checks
- Poor record-keeping
- Over-reliance on a single navigation aid
- Failure to cross-check ARPA data
- Failure to use visual safety techniques
- Allowing manpower levels to drop to unsafe levels during berthing
- Failure to challenge pilots during pilotage
- Relying on auto-pilot in confined waters.

An independent and highly experienced navigation assessor will be able to spot these issues and others to offer invaluable mentoring and advice to all members of the bridge team, Master included. This includes encouraging senior deck officers to be more proactive in sharing the benefit of their experience and knowledge with juniors.

Why you should take an active part

Your ship may not have had a major incident and therefore seem successful in terms of safety but, in reality the safety systems may never have been properly tested. A navigation assessment will almost inevitably identify weaknesses that need to be addressed for your own safety and for everyone else onboard.

It is important to note that navigation assessors are not out to ‘get’ anyone. The Nautical Institute says assessors should, ‘approach the task in a way that doesn’t demotivate people and maintains morale,’ and, ‘encourage crews to be truthful … confident there will be no disciplinary action resulting from the process.’

OCIMF adds that assessors should, ‘make sure that the bridge team does not feel threatened or targeted,’ and, ‘reassure personnel that the aim of the assessment is to drive continuous improvement, including the effective interaction of the bridge team members.’

While you should do your job as best you can during your observed day and night watches, the key is to behave and interact with other bridge team members in a normal, natural, everyday way. If the team tries to put on a ‘show’, this will be unlikely to last more than a couple of hours and possibly create undue concern as cracks in the ‘performance’ start to appear.

The key is to allow the assessor to see things for what they are, including the negative aspects. Only then will you, your fellow seafarers and the shore team get meaningful, practical feedback on what needs to be improved and how. As OCIMF says, ‘Both good and weaker behaviours should be communicated to the team. Any gaps or weak behaviours should be discussed in an open manner. The emphasis should be on coaching, rather than embarrassing or criticising any bridge team members.’

How assessments will help you

The assessor’s feedback will provide you and your colleagues with invaluable continuing professional development advice. As well as offering an independent confirmation of your areas of competence, it will also identify possible knowledge or skills gaps. This in turn will provide a clear roadmap for your future training and career development.

As with every profession, deck officers should always be open to further learning and evaluation of their performance. In particular, you should not hesitate to ask navigation assessors for immediate feedback on your performance or skills, as well as being truthful and honest in your responses to them.

In summary, deck officers at all levels should not feel nervous about the prospect of a navigation assessment. You and your colleagues should welcome the rare opportunity to have an independent expert onboard who is trying to help you improve what you do, make your job less stressful and make your ship a safer place to be.

Above all, a navigation assessment will help you move forward in your career by confirming what you do well and identifying the areas where you need further development to proceed to the next level.

While there has been some variable quality in how assessments have been conducted in the past, there are now not one but two sets of industry best-practice guidelines. The Nautical Institute led the way with its 96-page guide in 2016 and this was followed by Oil Companies International Marine Forum’s (OCIMF) 76-page version in 2018. The two guides are broadly similar in their advice:

Grounding caused by inefficient bridge procedures

What happened?
A passenger vessel found itself unable to enter port without altering the agreed passage plan. Charted rocks at the entrance to the port made the arrival more difficult. Despite this, the passage plan was not re-evaluated or adjusted. Instead, the Master made an attempt at anchoring just inside the entrance of the bay, instead of in the planned position.

This resulted in the vessel grounding on the rocks, sustaining serious damage to the hull, port propeller shaft and rudder. In the aftermath of the grounding, the bridge team did not initiate the post-grounding checklist, nor did they sound the general alarm or crew alert. Neither the shore authorities, nor the ship managers were informed of the incident. There were no injuries, but the vessel had to be withdrawn from service for three months for repairs.

Why did it happen?
> The bridge team failed to follow the correct navigational procedures and did not use the tools they had at hand effectively – although both the Master and the navigator had received specific training.

> The team did not communicate with each other, nor question any decisions before, during or after the grounding. This compromised overall situational awareness and demonstrates poor navigational practice.

How can this type of accident be prevented?
> The bridge team showed some dangerous lapses in the quality of their communications and navigation procedures. Similar errors of judgement would be highlighted as concerns during a navigational assessment, showing the importance of undergoing this kind of analysis.

> Further training can inform and refresh bridge team members about how to handle situations such as these and so prevent future accidents from occurring. A good navigational assessment will identify specific training needs and enable safer navigation and more effective communications during a vessel’s entry into port and across an entire journey.

COMMUNICATIONS AND NAVIGATION PRACTICES ON THE BRIDGE DURING THE ATTEMPTED ENTRY INTO PORT WERE FOUND TO BE POOR

Read the full report at https://www.gov.uk/maib-reports/grounding-of-passenger-cruise-ship-hamburg

If you find our accident reports useful, check out The Nautical Institute’s Mariners’ Alerting and Reporting Scheme (MARS). A fully searchable database of incident reports and lessons, updated every month. Seen a problem yourself? Email the editor at mars@nautinst.org and help others learn from your experience. All reports are confidential – we will never identify you or your ship.
Keeping the **right** attitude

In this issue, we talk to OOW **Boris Petkov**, currently serving onboard *M/T Searunner*, about his marine career to date and his experiences of going through an onboard assessment. His advice to others facing their first assessment? Don’t be nervous!

**What interested you in a career at sea?**
My brother-in-law was a sailor. He worked as an engineer. We also had lots of family friends that were sailors. Their stories inspired me when I was a child and nourished my interest in navigation. I was also curious to challenge myself and find out if I could handle this way of living that is completely different from life on shore.

**What career path has led to your current position?**
After graduating from high school in 2012, I decided to study navigation at the Technical University of Varna in Bulgaria. In 2016, I joined the Thenamaris training programme as an apprentice officer, graduating from there in 2017.

After six more months of serving as an apprentice officer for Thenamaris, I was able to obtain my OOW licence in 2018. In September 2018, I was promoted to OOW onboard the vessel *M/T Searunner*.

**What are the greatest rewards and challenges from your life at sea?**
For me, every day onboard is a challenge and I’m trying to do my best. When I was an apprentice my main goal was preparing myself for the OOW position. My promotion was my greatest reward for my efforts at that time. But I’m not stopping here because I’m trying constantly to improve myself.

**How did you feel the first time you experienced a navigational assessment? Was there anything that surprised you?**
To be honest, at the beginning I was a bit nervous, but I also found it really pleasant as an experience. During the time I spent with the assessor, I learned things from him that I find very useful today.

**How did the experience change how you did your job afterwards?**
The assessor showed us how we can relax into the work we do on the bridge and now I’m feeling more confident in the way I work.

**Do you have any tips for officers expecting a navigational assessment?**
Yes, don’t be nervous! The assessor can show you other aspects about work on the bridge, so try to learn and make the most of the time you have with them.

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**Name:** Boris Petkov  
**Current position:** OOW, *M/T Searunner*  
**Training:** Studied navigation at the Technical University of Varna, Bulgaria; Thenamaris training programme

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*DURING THE TIME I SPENT WITH THE ASSESSOR, I LEARNED THINGS FROM HIM THAT I FIND VERY USEFUL TODAY*
Having it both ways

Dr Andy Norris, an active Fellow of The Nautical Institute and the Royal Institute of Navigation, looks at how a navigational assessment can work both ways

Navigation assessments offer the most benefits to all involved when they act as a multiway exchange of knowledge and experience, helping to ensure continuous improvement of safe navigation at sea. That way, everyone can learn and improve from the process; not least those sitting at ‘head office’. Importantly, the results and key learnings from these assessments can also help influence future training of seafarers, detailed design of equipment and the layout of ships’ bridges.

During the assessment process, bridge staff should have the opportunity to bring up any perceived deficiencies that they see as having a negative influence on safe and efficient navigation. The assessor may be able to explain why things are done in a certain way and demonstrate that any apparent problems can be readily overcome by knowledgeable use of the equipment. However, if there is a problem that cannot be solved by better onboard practice, the assessor is in a good position to report any issues back to the company.

As a general rule, before bringing up anything of this nature to an assessor, less experienced staff should have already asked similar questions to others on the bridge, not least the Master. However, if earlier discussions do not result in a satisfactory explanation, it may be something that does need to be considered more widely.

Technological takeover?

Younger bridge staff can bring quite different insights into previously established perceptions concerning the use of technology and its interaction with the physical world. It is likely that their whole life experience to date has been centred around the use of highly sophisticated digital systems running on mobile phones, tablets, computers and TVs. Paper-based information may have played a rather less important role.

At present, many of the detailed requirements for the user interface, training and operation of ECDIS, for example, are based on the assumption that the user’s mindset is based on familiarity with paper charts. In fact, most newer entrants into the maritime navigation world have a mindset which is based on their leisure use of mapping apps. For instance, when zooming into a digital map, they naturally expect more details to become visible. Importantly, although younger people generally expect to be able to see their own position accurately depicted, they know by previous experience that this is not always the case. This forms an inbuilt, highly useful mindset that older navigators had to learn.

On many vessels today, paper charts are still seen as the best backup solution for a failed ECDIS. In my opinion, in earlier years this made good sense, but today the emergency use of paper charts is generally no longer assisted by people being familiar with their use. Even older staff may not have used a paper chart for years. Perhaps navigation assessments will help point out that this is no longer an optimum solution.

Effective and rapid understanding

Good bridge assessment procedures should give the shipping industry, equipment suppliers and legislators a more effective and rapid understanding of the issues facing actual users, in addition to allowing bridge users to become more aware of their own personal strengths and weaknesses. Training, equipment design and practices must evolve continuously to ensure that we can all benefit from our ever-developing world.

The civil aviation world appears to have profited from their own ‘two-way’ assessment process for many years and the maritime world is now poised to greatly benefit from something similar.
Take ten minutes to read through our top tips for getting the best out of your next assessment

1. Learning opportunity
Onboard navigation assessments are an opportunity to learn and improve. A good assessor should also be a good mentor and help bridge teams find solutions.

2. What’s the difference?
There is a difference between a navigation audit and an assessment. In this issue of The Navigator we discuss the benefits of an assessment.

3. Audits
An audit is usually an inspection that targets compliance with a specific process. From a navigation point of view, audits often happen in port when a vessel is moored to ensure that procedures are correct.

4. Assessments
An assessment, on the other hand, is an observation of competency aimed at continuous improvement. Ideally, an assessment should be carried out over a period of days, across a range of navigational experiences.

5. Be yourself
Assessments are not a case of ‘pass or fail’. The best environment for an assessment is when the bridge team conducts business as usual. Only then can areas of improvements be accurately identified.

6. Beyond the person
Assessments don’t only observe bridge team members’ competency. They also look at procedures and design, allowing recommendations to be made for improving multiple aspects of onboard operations.

7. Accidents happen
One of the drivers for the increasing focus on assessments (rather than audits) is that after years of inspections and BRM training, accidents are still happening. Assessments offer an opportunity to identify in real time, with actual bridge teams, where improvements can be made to enhance safety and reduce risk.

8. The view from outside
Bridge teams who work together regularly sometimes develop bad practices that they cannot see themselves. An independent assessor can observe operations in a new light and introduce new techniques and best practices to an existing bridge team.

9. Professional development
You should view an assessment as an opportunity for your personal and professional development. Discuss ways in which you can improve with the assessor and find out if further development or training would be useful to consolidate any new skills.

10. Mentoring moments
Although an assessor can act as a mentor, learning the skills of an assessor can help you mentor others too, continually improving your own bridge team.

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AND THE WINNER THIS ISSUE IS...

Chief Officer Vjaceslavs Usacovs sends us these photos from the crude oil tanker Stena Surprise. He writes:

I have been a seaman for 20 years already, and photography has been my hobby for a while. I try to express the life, romanticism and seriousness of our profession in my photos!

ARE YOU A MARITIME PROFESSIONAL?

Are you, or do you support those, in control of sea-going ships?
Can you keep up with new technology & new regulations?
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WE’LL GET YOU THERE