

THE PILOT



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Editorial

The criminalisation of seafarers continues to cause increasing concern throughout the Industry and pilots cannot ignore this worrying trend.

As I write this the Master and Chief Mate of the *Shen Neng 1*, that went aground on the Barrier Reef in Australia, have been arrested and charged with causing damage to a marine park.

In Hong Kong, two pilots and two Masters have been imprisoned following a collision between the *Neftegas 67* and the *Yao Hai* which tragically resulted in 18 deaths. This case is important because the judge ruled that the failure of both vessels to take sufficient action to avoid collision was a deliberate act stating:

What they did was deliberate. It was a deliberate omission not to manoeuvre or take action until the last moment of emergency and in a panic.

Meanwhile, in Melbourne a pilot and port authority have been condemned by a judge in a case where a ship ruptured a gas pipeline when it dragged anchor in bad weather (see page 6).

The message is clear, shipping is operating in a zero tolerance environment and pilots are in the front line!

Finally though there is some good news. In Brisbane, the pilot was praised in the media for his prompt action in avoiding disaster when the cruise liner *Pacific Dawn*, suffered a total systems failure at a crucial point (see page 11). The suspected cause of the blackout was salt water damaging a fuse! As someone has aptly observed "When technology becomes the master, we reach disaster faster".

Take care out there.

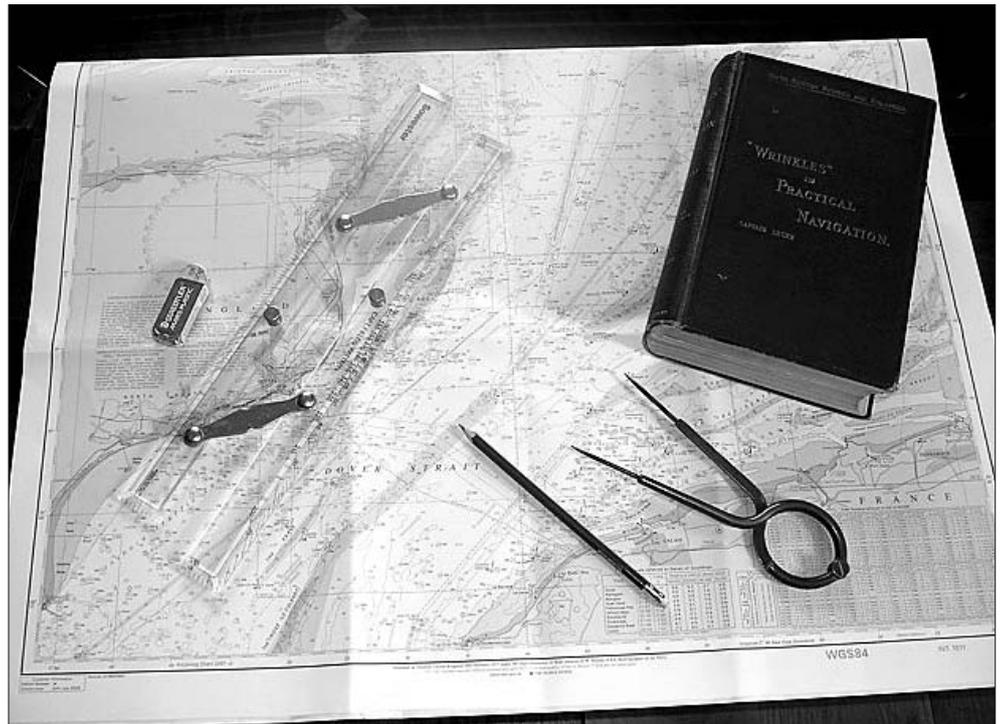
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ECDIS (Electronic Chart Display and Information System): Part 2: Navigating using ECDIS

He had bought a large map representing the sea
Without the least vestige of land
And the crew were much pleased when they found it to be
A map they could all understand.

Lewis Carroll

In Part 1 I attempted to explain how ECDIS works and with it having been collated from many different sources I invited feedback as to accuracy and interpretation of documentation of what is extremely complex technology. The feedback so far indicates that I more or less got it right but there were a few errors that require correcting.



Farewell!

Photo: JCB

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ERRATA

Firstly, my bold statement that “raster charts are never approved for navigation” on page 2 is incorrect. There are still some areas of the World where ENC data is unavailable and because of this the ECDIS can fill these gaps by means of officially approved raster charts using a certified Raster Chart Display System (RCDS). In my article I stated that paper charts also had to be carried covering these areas which suggested that the paper chart rather than the RCDS must be used. If fact, the paper chart requirement can be met by carriage of a chart of relatively small scale and the raster chart folio is, in these areas, approved for navigation.

On page 3 I expressed concern over the impracticality of planning a passage using the small display for an overview. In fact for planning purposes I understand that the ECDIS examines the passage at the highest scales regardless of the scale being used by the navigator. More of this later

On page 4 I quoted from what I believed to be a “recent” paper by Dr Fosco Bianchetti addressing ENC to SENC data conversion. In fact this paper was written in 1999 before the HO’s had finalised SENC conversion. This is a highly technical issue outside the scope of this feature so suffice to say that the ENC / SENC issues referred to were resolved in 2006. Having said that, an increasing number of ECDIS suppliers do now provide data already converted to their SENC in order to save on-board computer processing.

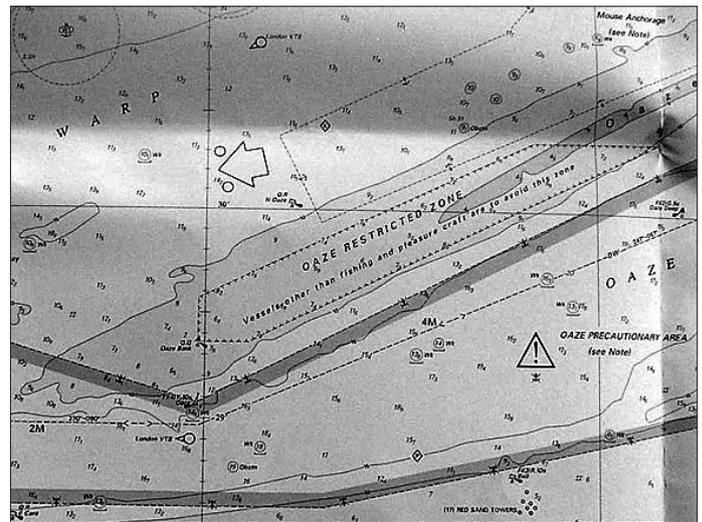
TRAINING:

In Part 1, I expressed concerns over the training and in particular the need for any ECDIS user to be fully competent in the particular type of ECDIS placed on board his ship. Whilst such type specific expertise through training is being achieved the top end of the shipping industry, such as cruise liners and large tankers, the evidence is emerging of an alarming lack of comprehension by many officers of, not just their own system but of ECDIS and its functions in general. These are not just personal concerns but reflect those of many Industry observers.

Why is training such an issue?

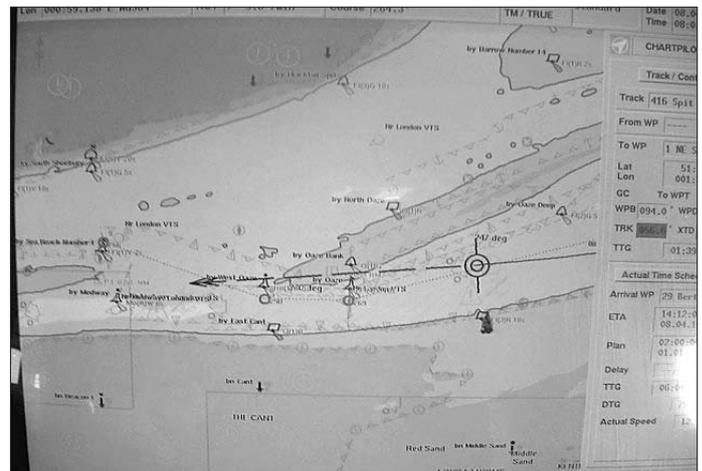
Currently if you place any navigating officer on a bridge with a set of paper charts, even if they have been supplied by a country whose charting he has never seen before, he will recognise the key features and be able to plan a safe passage for any vessel to which he has been allocated.

This hasn’t happened by accident but is a direct result of the evolution of the paper chart over centuries which has been accompanied by similarly evolving chartwork skills passed on to successive generations of navigators. In contrast to such evolution, within the next eight years, the safety of the worlds’ shipping and coastlines will be dependent upon navigators fully comprehending not just the principles behind vector charting but the particular ECDIS operating system on their ship. As mentioned in Part 1, despite an IMO model course being approved by the STCW committee in 1999, this course is not yet mandatory but ship owners / operators are required to train their officers to use ECDIS under their ISM policies. The top ship owners are sending their officers on training courses, based on the IMO model, run by their ECDIS suppliers and since these normally run for five days these officers will have a comprehensive understanding, not just of the principles of ECDIS, but also of their specific equipment. This is the ideal but only covers a minority group and because so many ship owners / operators now use crewing agencies the vast majority aren’t receiving such comprehensive training. The result is that, in order to tick the appropriate ISM box, these officers are being sent on very basic three day courses which can only ever be generic and with, no exam to pass, make no assessment as to an officer’s comprehension of the ECDIS concept or competence in its use.



Above: Detail from a paper chart (pic. 1)

Below: An ECDIS “standard” display of the same area. Note the missing anchorage and zone text detail! (pic. 2)



Poor training is a fundamental problem because navigating by use of ECDIS requires a completely new approach to chartwork and the adoption of totally new skills. When navigation by use of electronic charts was first mooted there was considerable discussion as to how such a system should operate and although mariners preferred the familiarity of a scan of a paper chart into an electronic version of the same it was considered that, if accompanied by a comprehensive re-training programme, a three dimensional “intelligent” charting system could not just enhance safety but also provide a platform for integrating other information technologies into one central navigational console for the navigator. Thus the vector chart was born. So, here we are in 2010 with the technology in place but without the requisite training. The widespread concerns over this situation are valid because in order to navigate effectively using ECDIS a navigator must forget the two dimensional paper chart and navigate using the three dimensions in which the ship actually operates. Unfortunately, in order to avoid overloading the tiny screen, the vector chart hides much essential navigational information away on different “layers” and the navigator is therefore faced with three major problems. Firstly, he needs to know how to tailor his ECDIS to his ship and the intended passage. Secondly he needs to know what information is available within the ECDIS relevant to the intended passage and thirdly, where to find that information, recognise its relevance and effectively apply it. Quite a tall order for an officer who has joined a ship with an ECDIS that he’s never seen before after a 30 hour trip in a mini bus from Poland who’s only had a 45 minute hand over because the officer he’s relieving is going home in the same minibus. Yes, it has happened!!

Setting up the ECDIS

During the installation of an ECDIS, the supplier should have entered fixed vessel data such as the length and beam and also aligned the ship's position on the ECDIS with the aerial position on the ship. The manoeuvring characteristics of the ship should also have been entered during installation and once set, this information cannot normally be altered by the operator. As the range is zoomed in, the ship position identifier on the chart will change from a spot surrounded by two concentric rings to a scale plan of the vessel so it is essential that this vessel data is correctly entered.

Generally, unless a vessel is spending a long period in port, it is recommended that the EDCIS is left switched on whilst in port because, like any computer a start up from cold can take a considerable time.

Preliminary set up:

Before commencing a passage the navigator must check the ECDIS for the proposed passage, firstly to ensure that the vessel has licenses for all the ENC charts (called cells) and secondly to ensure that these are up to date with the latest corrections that are supplied, either by CD ROM or via an Internet connection. So, assuming that all the passage licenses are in order and up to date, the first thing that the navigator needs to do is to enter the ship's draft and air draft and establish the safety contour based on draft and the required Under keel Clearance (UKC). For example, with a vessel of 6m draft the depth contour could be chosen as 8m. However, since most ENC data is supplied with preset contours, typically at 5m intervals the display will default to the next deepest contour which in this case would be 10m. All areas of less than 10m will show as blue and areas deeper than 10 will be displayed as white (see picture 5). So as long as the ship remains in the white area, she is, in theory, safe! There are more complex facilities that can be set up if required but that is outside the scope of this article.

In addition to the safety contour, this same depth of 8m can be set as the safety depth. In this case, if the navigator sets the ECDIS to display depths then all depths of less than 8m will show in bold type and those deeper than 8 will be a pale grey. This means that a depth of 9m, although within the 10m blue safety contour it will be displayed in pale grey text whereas a depth of 7m will be displayed in bold black.

The whole safety of the passage is dependent on this information being correct so, if a navigator fails to set this correctly, the scene is set for a disaster! It could be all too easy for a new watchkeeper joining a vessel that arrived in a loading port with a draft of 4m with the safety contour and depth set at 5m to forget to change the draft and depths to the loaded draft, especially if he was unfamiliar with the ECDIS type in use.

Such a failure was responsible for the grounding of the CFL Performer in 2008 where the MAIB report states the following:

ECDIS was the primary means of navigation, but none of the vessel's bridge watchkeeping officers had been trained in its use. Consequently, many of the system's features which could have prevented this accident were not utilised.

However, assuming that our officer has been fully trained on his ECDIS the next task is to set up a safety domain. IMO specifications require ECDIS to trigger alarms in the following circumstances:

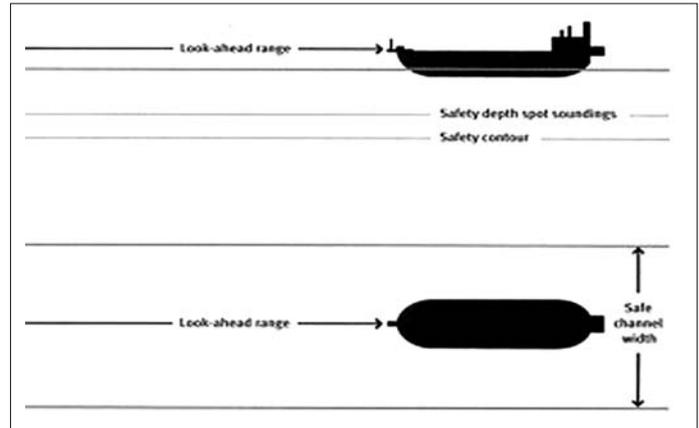
- If, within a specified time set by the mariner, the ship will cross the safety contour
- If, within a specified time set by the mariner, the ship will cross the boundary of a prohibited area or of a geographical area for which special conditions exist
- When the specified cross track limit for deviation from the planned route is exceeded
- If continuing on its present course and over a specified time or distance set by the mariner, the ship will pass closer than a user-specified distance from a danger (eg obstruction wreck or rock)

that is shallower than the mariner's contour or an aid-to navigation

All alerts will be generated from the relevant chart at the largest available scale whatever scale is being displayed on the screen.

ECDIS manufacturers often meet the requirements by allowing users to specify a safety domain for the vessel, effectively contained by the following parameters:

- In depth, by the safety contour and safety depth
- In forward extent, by the look-ahead time or look-ahead range
- In lateral closeness by a specified distance.



*Safety Domain Diagram
reproduced by kind permission of Dr. Andy Norris.*

Note that the safety domain requires the navigator to input the vessel / voyage specific parameters and so this must be done at this stage. Best practice would seem to dictate that these parameters should be established by the Master.

Setting all of these voyage safety features will require type specific knowledge of the ECDIS, underlining again the importance of specialist training!

Once the vessel's dynamic parameters have been set the passage plan can be created and it is here that the difference between traditional chartwork and ECDIS working become apparent. Used correctly ECDIS planning provides for a safer passage but if a navigator is lazy, pressed for time or fatigued etc, then some important information may be overlooked.

The Passage Plan

Passage planning on an ECDIS requires exactly the same procedures as for a paper chart and the navigator must follow the same "best practice" guidelines as per the Bridge Procedures Guide but with ECDIS, the process is complicated by the fact that the navigator needs to know what information is already incorporated into the ECDIS and what isn't and this is where a weakness of ECDIS is exposed. For example if some changes to buoyage have taken place on the intended passage, a navigator using a paper chart will be aware of this because the amended buoyage will be pasted on the chart over the old system and is therefore immediately visible. With ECDIS, as reported in Part 1, problems have arisen with synchronising electronic Notices to Mariners (NtM) updates for ECDIS with the paper equivalent. So on an ECDIS it may not immediately be apparent as to whether or not the changes have been included. Because of this anomaly between the printed and electronic versions of NtM's, mariners are currently being advised to check all routes with the paper NtM's. Not a good start for ECDIS!!

In addition to checking the NtM's the navigator still needs to refer to the traditional printed passage planning documents such as tide & current tables, Lists of Lights, sailing directions, NAVTEXT etc. relevant to the proposed passage. To make life easier there are an increasing number of companies offering electronic versions of

these references and the UKHO have recently launched an “e-Navigator” service which provides all the necessary berth to berth ENC chart cells and other services and documentation relevant to the intended passage in a single download. As ECDIS take-up rates accelerate it is certain that all the major suppliers will offer full data packages which will remove the current tedious and error prone task of cross referencing electronic and printed information. However, this additional data can only be provided as an overlay onto the ENC and must be capable of being removed from the screen by means of a single operator action.

Once the navigator has all the relevant documentation to hand, the plan can commence and the first thing to check (that familiarisation again!) is whether waypoints for that passage already exist in the ECDIS database. If so it can be uploaded for re-use and by running an initial check the ECDIS will verify if the plan is safe for the dynamic parameters previously set. As well as alerting the navigator to any parts of the plan that are outside the safety domain parameters, the ECDIS will also alert the navigator to charted features of relevance on the passage such as traffic separation zones, restricted areas, anchorages etc. How alerts are presented to the navigator are dependent on the manufacturer with the best automatically jumping to the problem area and others providing a simple drop down list.

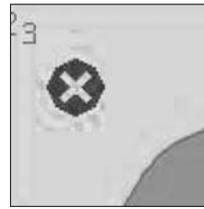
If there is no existing passage in the ECDIS database then the navigator will have to create one. Waypoint databases are commercially available and some ECDIS manufacturers supply them with the ECDIS but whilst these are useful, it must be remembered that other vessels are likely to be using the same waypoints so a prudent navigator may wish to amend them, especially in areas of high traffic volumes such as the Dover Strait. CNIS at Dover have been frequently amazed to witness many vessels converging onto the same waypoint when plenty of sea room exists in the sea lane and this was identified as a factor by the MAIB investigation into the collision between the *Dutch Aquamarine* and the *Ash*, which tragically resulted in one fatality, in 2001.

If no pre-loaded waypoint list exists for the passage then the navigator will have to start from scratch, which isn't the easiest procedure on an ECDIS. The main problem that traditional mariners find with this is the small screen size which makes it difficult to obtain the outline overview obtained from a small scale paper chart. However, in practice the advantage of the ECDIS is that by putting in the departure and arrival points any obstructions will be identified and the navigator can then move waypoints and re-check the outline route. For longer ocean passages the ECDIS really shines since it can instantaneously offer a great circle or Rhumb line route or a combination of both thus saving much tedious plotting.

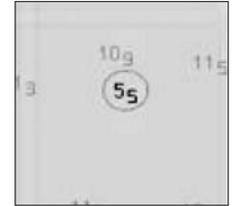
Once a viable outline passage has been established it is then essential to check the whole route in detail using the zooming and scrolling facilities. Although this sounds tedious, it is actually easier and less error prone than drawing course lines on a series of passage charts of differing scales. However, it is essential that this process is done with extreme care because, as previously mentioned, many chart features such as submarine cables are hidden on the different layers of the ENC and essential detailed information such as notes pertaining to precautionary areas needs to be accessed and analysed for relevance by means of clicking on the ! symbol to obtain the “pick report” relating to the feature. Yet again, the effectiveness of this plan analysis is dependent upon the navigator being fully familiar with the particular ECDIS manufacturer's operating system!

This pick report is one of the most essential tasks during planning because there are some confusing new symbols and display anomalies when compared to the paper chart as shown on the following pictures.

These are just two examples of many ECDIS features that need to be fully understood to ensure a safe passage.



What's this? Wreck – Dangerous wreck / Obstruction – Depth unknown / Rock – Underwater, awash rock. It could be depth unknown but the meaning is only revealed when interrogated. It is separate to the depth contour.



Here a sounding 5.5 has been reported but not confirmed. It is therefore unreliable and will not show up with safety contour!

Whilst all the planning is going on the navigator must never forget that he is working on a computer and he should save the plan at regular intervals to avoid totally losing all the detail in the case of a “crash”. Yes, that happens!

Best practice guidelines recommend that planning is undertaken on the back up ECDIS unit so once the plan has been completed and fully verified it needs to be exported to the primary unit. This is increasingly done via a data link cable between the two systems. Some commentators have expressed concern that the main and back up units are linked together by such a cable maintaining that the two units should be totally independent to avoid any possibility of a virus or Trojan infecting both systems. However, such an arrangement would require the navigator to create two exactly identical plans for each unit which isn't practically feasible. and transferring data by means of a memory stick or CD ROM would pose the same potential risk of viral infection but I am unaware of any ECDIS units having suffered from such computer viruses. However, many ECDIS run using the Windows platform and can be connected to the Internet, so that factor, coupled with the presence of unsecured CD, DVD and USB drives leads some to valid concerns that it may only be a matter of time before a virus affects an ECDIS.

One essential factor that mustn't be overlooked when transferring the voyage plan is that as a result of the primary and back up ECDIS being independent, the vessel specific safety depth and domain parameters must be set on each set independently and a prudent navigator will undertake the final route verification checks on both systems prior to the passage commencing.

Getting Underway

Once the plan has been saved and exported to the main ECDIS unit at the conning position the passage can commence and it is here that the advantages for a well trained bridge team are evident but for less well trained officers, unfamiliar with their ECDIS system, the differences between ECDIS and the traditional paper chart can result in some important features being overlooked.

The performance standards require ECDIS units to have three display modes: Base, Standard and Full

Base Display: This displays the absolute minimum information considered necessary for navigation such as the coastline, fixed structures and the safety contour. It is not recommended for navigation but some find it useful for de-cluttering the screen when checking ahead on a small scale.

Standard Display: This is the display for normal navigation and it is a requirement that it can be presented at any time by a single operator action. In addition to the information of the base display this mode contains the drying lines, buoys and other navigation marks, prohibited and restricted areas, separation and traffic routing and precautionary area (but not the notes!)

Despite being the recommended display, this display doesn't provide the same information as a paper chart with information such as buoy names and characteristics, anchorages, submarine cables etc. (see pics 1 & 2).

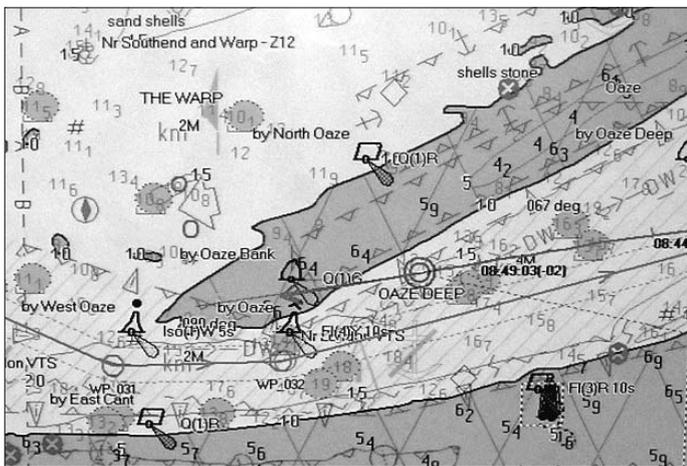
Full Display: This contains all the information contained within the ENC but due to the amount of data this mode tends to overload

the typical small screens with text overwriting and concealing other objects except on the largest scales and so again isn't recommended for navigation.

Note that even on this full display mode much of the paper chart detail such as precautionary notes can only be accessed by interrogating objects on the chart to display a pick report of the required information.

In practice additional information is added onto the standard display via the ECDIS menu system to the preference of the watchkeeper but how this additional information is accessed and displayed is not standard and is left to the whim of the manufacturers. However, once set, many systems now permit different users to save their preferred display layout.

The fact that important detail isn't instantly visible represents the key difference between paper charts and ECDIS. Even with comprehensive type specific training this factor represents the most dangerous aspect of navigating by means of ECDIS because whereas historically the navigator has become used to all the necessary information being visible on the paper chart, the vector chart requires the navigator to be inquisitive and interrogate objects and hunt for additional display features in menus and sub menus.



The same area as pictures 2 & 3 with the additional detail of track, buoy names and depths. Here the safety contour was 10m and the safety depth 7m. Note that text detail is still missing.

On passage

Assuming the standard display is chosen the ECDIS will automatically choose the largest scale chart available and the default display mode is North Up with own ship in the centre and true motion so the ship moves to near the edge of the screen after which it will automatically reset as with true motion radar. Most navigators find this pretty useless so the menu system offers the same variety of tracking options as the radar. Most users prefer the centre offset relative motion display but some advanced users on the cruise liners are increasingly using offset Head Up displays on both radar and ECDIS meaning that the displays correspond to the visual picture.

The heading marker is a fixed line extending to the edge of the screen and again, in the same way as radar, the vector can be set to either GPS tracking or water tracking. GPS tracking is indicated by a double arrow head on the vector and water tracking by a single arrowhead. The route is usually displayed as a solid orange line.

The brightness of the screen is adjustable and there are generally three screen display options of day, dusk and night. Additional care must be taken when in the night mode because some features, such as precautionary zones can be very indistinct.

If the ECDIS is part of an integrated system then information from other systems such as radar and AIS can be overlaid on the ECDIS display and this facility can be very useful. In particular the radar image can provide a valuable verification of the accuracy of

the GPS input in coastal water in that the radar land image should align with the chart display. However it is recommended that such radar overlay isn't left on permanently because not only could it mask important data but it also uses additional computing power which may overload the processors.

On normal passages the ECDIS provides an instant visual position check and alarms sound when a waypoint approaches or if the vessel wanders off track outside the pre-set safety domain or approaches a shoal or other charted hazard.

One function that an ECDIS cannot currently perform is to integrate live tide data to produce real time depths so whilst the safety contour and depth settings are fine for normal deep water navigation, when the vessel needs to transit a tidal dependent area, such as arises in my own port, then the auto checking of the passage will flag up as being outside the parameters. Third party software can provide tidal data as an overlay and may also include a passage planning tool to calculate tidal windows etc but such programs cannot interact with the ENC to produce live depth data. Consequently in tidal restricted areas the safety domain alarms will need to be disabled.

It is very easy for a watchkeeper to have unreasonable trust in the ECDIS position, reassuringly displayed on the chart but the verification of position by other means is as essential with ECDIS as with traditional paper chart navigation because if the GPS is in error then the whole ECDIS is rendered inaccurate and for this reason traditional navigation verification techniques must be used and tools to facilitate this are required to be readily available on the primary screen. If the aforementioned radar overlay isn't available then VRM & EBL functions enable radar ranges and bearings to be transferred and electronic bearing markers permit traditional chartwork to be undertaken using visual bearings.

If a GPS error is identified then the input must be disabled and the ECDIS used as a traditional chart using traditional position fixing techniques but I understand that this is not a user friendly process on many ECDIS units!

CONCLUSION

ECDIS is a highly complex electronic tool and still in its infancy so it is inevitable that anomalies in the charting will be identified and the training of navigators will lag behind the implementation dates. In part 3 I will be examining some of the problems and accidents that have arisen already along with the vulnerabilities.

The need for ECDIS to be used with extreme caution was highlighted in February when an ENC error was identified resulting in the following emergency NAVTEX alert to be issued:

Mariners are advised that ECDIS may not display some isolated shoal depths when operating in "base or standard display" mode. Route planning and monitoring alarms for these shoal depths may not always be activated. To ensure safe navigation and to confirm that a planned route is clear of such dangers, mariners should visually inspect the planned route and any deviations from it using ECDIS configured to display "all data". The automated voyage planning check function should not be solely relied upon. The International Hydrographic Organisation (IHO) is leading technical action to resolve this matter. Further information will be made available through Notices to Mariners.

Such notices are alarming but in a few years time, as new navigators come through colleges, having done all their chartwork exams on ECDIS, the teething problems should have been ironed out and this next generation of officers will be fully familiar with the operational aspects of ECDIS and navigational safety should be enhanced.

Already, on cruise liners and other well managed ships ECDIS is being used as intended and the benefits are evident because in addition to the three dimensional safety domain features, when zoomed right in, a good quality ECDIS can be used as a berthing aid.

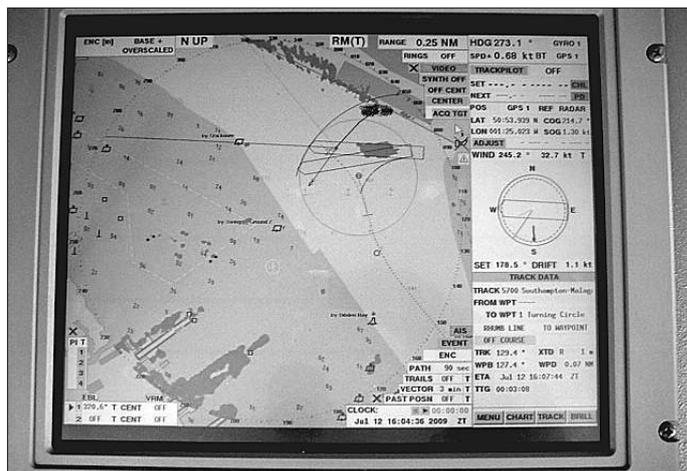
Pictures 6 & 7 show a passenger ship swinging off a berth in a

restricted turning area where the difficult visual picture is supplemented by a high quality ECDIS which is showing predictive vectors for the bow and stern. Note also the radar overlay.

As I mentioned in Part 1, compiling this feature hasn't been easy because ECDIS is so complex and it is becoming evident that all



Visual assessment for swinging in a restricted area is difficult.



The ECDIS provides valuable instant and predictive information
Photos: Nigel Allen

pilots will need to attend an ECDIS course once implementation accelerates. Meanwhile, the Nautical Institute has published an excellent book by Andy Norris on ECDIS which explains in detail how ECDIS works and which I have reviewed on the next page. Supplementing Harry Gale's, *From Paper Charts to ECDIS* (Reviewed in the April 2009 issue), *ECDIS & Positioning* is a valuable concise reference work.

JCB

APL Sydney: Another Pilot Criminalised?

I receive many shipping news reports from around the World and it is always difficult to decide which are of relevance to pilots but a case in Melbourne has important implications with respect to procedures for masters, pilots and port authorities.

In December 2008 a pilot was on board the *APL Sydney* when the decision was made to abort the berthing and the vessel was instructed to anchor in the Port Phillip Bay anchorage within the Melbourne compulsory pilotage district. With the weather deteriorating the pilot left the ship before the vessel was fully brought up to the anchor and proceeded ashore. Shortly after anchoring, the *APL Sydney* started dragging the anchor towards a gas pipeline and, realising the danger, the Captain requested permission from the harbour authority to weigh anchor and move to a safer location in the anchorage.

The harbour authority refused to permit the ship to move without a pilot on board and instructed the Captain to wait for the pilot to return to the ship. By this time the pilot cutter was 45 minutes away from the vessel but turned round and returned to the anchorage with the pilot.

The vessel continued to drag anchor towards the gas pipeline but the harbour authority took no action. Shortly before the pilot re-boarded, the anchor fouled the pipeline and parts of the windlass shattered rendering it unusable. Once he boarded the vessel, the pilot ordered an ahead movement and suggested that the cable be cut. The ahead movement ruptured the pipeline which cut off the ethane supply from Esso's Bass Strait gas field for four months.

Naturally, the lawyers are having a field day and at the time of writing the claims are approaching \$70M and rising. With such a large claim it is inevitable that the actions of all involved are subjected to scrutiny.

Referring to the ports actions, the judge criticised the port authority for not having an emergency plan to deal with a gas leak and, despite having been alerted to the risk by the Captain, stated that, "...the evidence does not reveal that harbour control took any active step for about 25 minutes to deal with the situation, far less to assist or facilitate the master taking steps to prevent the ship getting too close to the pipeline".

With respect to the Captain, the judge has sympathised with his

predicament at having been placed in a seemingly impossible position without support but hasn't exonerated him stating that he should have "ignored the refusal of harbour control at 15:07 to allow him to move the ship and begun lifting anchor then and there. It was the time to act. His instinctual reaction to the situation was correct. His primary responsibility was to ensure the safety of his ship, her crew and cargo and to prevent the anchor damaging the pipeline. I do not accept that he was absolved of his right and duty to exercise that responsibility by the unhelpful refusal of harbour control to give its permission".

With respect to the pilot, the judge considered that his decision to leave the vessel before it was safely at anchor amounted to a breach of his obligations.

"If anything went wrong with the anchoring, as it did in this case, the master [Xu] would be in the invidious position of potentially breaching the compulsory pilotage requirements of the Port of Melbourne were he to use the engines to manoeuvre the ship or attempt to re-anchor her".

The judge found that when the pilot returned to the vessel his advice to put the engine ahead "had no justification in the circumstances" and he "did not provide the master with the level of advice that a seafarer was entitled to expect from a person with an unlimited pilot's licence for Port Phillip Bay".

The judge said both the pilot and Captain were "negligent". These judgements are not final and will be subject to appeal but because they highlight the accelerating trend of criminalisation of seafarers they cannot be ignored.

In my opinion the harbour authority have been let off lightly by the judge because since this disaster happened in an area under their jurisdiction, the port control should have noticed that the ship was dragging, immediately recognised the potential risk and instructed the Captain to weigh anchor and move clear of the pipeline. Their decisions on that day are seemingly irresponsible as well as illogical! Despite this, the judge seemingly hasn't found the port "negligent" along with the pilot and Captain! Whatever the reasoning behind the judgement, the fact that the pilot has been criminalised cannot now be ignored. The actions of the pilot that day are recognisable as common practice in many ports and therefore serve as a warning that we must carefully review our procedures.

JCB

BOOK REVIEW

ECDIS & POSITIONING – Dr Andy Norris

Following the publication last year of “From paper Charts to ECDIS” by Captain Harry Gale, the Nautical Institute have now published a full book on ECDIS as volume 2 of their Integrated Bridge Systems series. As well as being published at a timely moment with respect to my own features on ECDIS, this book has not come a moment too soon for watchkeepers because the way ships are navigated is set to change fundamentally with the compulsory carriage of ECDIS which will replace the paper chart within the next decade. Following the successful format of his Radar & AIS book (Reviewed in the April 2009 issue) which formed volume 1 of the IBS series, Dr Norris has produced another excellent work that provides a clear and concise explanation of the operation & functions of ECDIS. The text is well illustrated with photographs and diagrams and is divided into the following ten logical chapters which deliberately avoid too much technical detail and complex formulae:

- 1. Positioning, Mapping & Geodesy:** Outlines the principles of mapping.
- 2. Electronic Positioning Systems:** Mainly dealing with satellite systems this chapter details how satellite navigation works and explains the various problems and errors associated with the system and how they are overcome. The author doesn't disguise the vulnerabilities associated with satellites and emphasises the need for position verification by other methods / systems, including radar and visual observations.
- 3. Introduction to Electronic charts:** This outlines the history of Electronic charting along with the hardware and software required.
- 4. Electronic Chart Data:** Explains how data is collated, who is authorised to produce it and how it is decoded and displayed
- 5. IMO ECDIS Requirement:** This chapter usefully analyses the IMO requirements and explains them in laymen's terms.
- 6. Operational Principles of ECDIS:** This is the most important chapter which details all the operational aspects of an ECDIS. It acknowledges the problems associated with different manufacturers' operating systems and therefore emphasises the need for type specific training to enable all users to fully comprehend their particular system.
- 7. Use of ECDIS for Route Planning:** Explains the basic principles that a navigator should understand when using an ECDIS for passage planning. This is obviously restricted to generic information with acknowledgement for the need for the navigator to be trained in the specific type installed on his ship.
- 8. Use of ECDIS For Route Monitoring:** This chapter details how the ECDIS vector information differs from that of the paper chart and explains the various display modes and operational features. This chapter again emphasises the need for the watchkeeper to be fully proficient in the system he is using since much of the detail printed on a paper chart is not displayed on the standard display and needs to be added by use of the menu or by zooming in the range, clicking on objects on the chart or selecting them from the menu system.
- 9. Use of ECDIS in RCDS mode:** There are still areas for which no ENC is available and in this case it is permissible for the ECDIS to display an approved raster chart and this chapter explains the requirements.
- 10. Training & Familiarisation:** Obvious to all except many ship owners / operators!! Usefully, this section provides a checklist of over 70 cross referenced items considered essential for the safe planning and execution of a passage.

Three Appendices cover: abbreviations and acronyms (many!), IMO back up requirements and Differences between ECDIS & RCDS.

In summary, this book details how ECDIS works and most importantly explains how, if safety of navigation is to be ensured, navigating by means of ECDIS requires a totally different methodology to traditional chartwork. My own research into ECDIS has revealed an alarming absence of any detailed explanation of a revolution in navigation that, within a decade, is set to replace practices and skills that have evolved over several millennia and so Andy Norris' excellent book fills a gaping crater by providing the generic detail required to understand ECDIS principles and it is therefore an essential reference work for every navigator.

JCB

ECDIS & POSITIONING – Dr Andy Norris

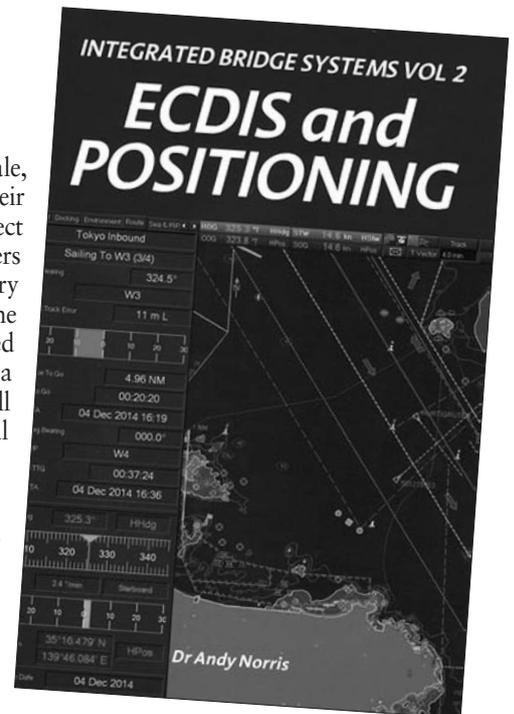
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PENSIONS NEWS

Well by the time you read this Easter will have been and gone. I went home for Easter where the weather gods were extremely kind and gave us unseasonably warm weather, which has given me a longing for the summer, but looking out the office window it appears we have not had spring yet, so it may be a long wait.

THE SECRETARIAT

Benefit Statements 2009

The benefit statements for 2009 were sent out during the first quarter of 2010 (a bit better than last year!) and there were no significant changes that need to be mentioned.

Tax Code Changes

Pensioners and widows should be receiving their 2010/11 tax code changes. If you have not received a notification then in all probability your tax code has not changed. For some reason HMR&C has been advising pensioners and widows to check that we are not deducting national insurance contributions (NICs) from their pensions. Why they have this bee in their bonnet is beyond me as a pensions payroll is by definition only subject to income tax deductions, so just ignore this bit of scaremongering.

AVCs Benefit Statements

Loretta is in the process of checking the 2009 annual AVC benefit statements received from our AVC providers and these should be sent out to you in the near future. If in receipt you have any queries please contact Loretta at Loretta@pnpf.co.uk.

P60s

As I write Loretta is busy stuffing the 2009/10 P60s into envelopes due to be sent out to all pensioners and widows in the next week or two.

Trustee Annual Report & Accounts 2009

The annual accounts for 2009 are in the process of being audited by our auditors,

Retirements

November 2009 to January 2010

PK Eaton	Manchester	November
R Tanner	Bristol	December
JH Wright	Tees	December

PKF, and it is hoped to have these as well as the Trustee's annual report signed off at the May 2010 quarterly meeting. I will then arrange for them to be printed and sent out to members, hopefully during the month of June.

EXPATRIATE PENSIONERS

The campaign to treat all expats state pensions equitably has received another blow as the European Court has ruled against uprating the UK's state pension for all expatriate pensioners regardless of their country of residence. Around 500,000 UK pensioners who have spent years paying their national insurance contributions do not receive annual increases to their basic state pension. Whether they get the increase or not depends on which overseas country they have decided to reside in.

2010 BUDGET SPECIAL

On 24 March 2010 the Chancellor presented his 2010 budget and although not earth-shattering it did affect some aspects of pension provision.

Restrictions on pension's tax relief

The budget confirmed the government's intention to restrict tax relief on pension contributions for high earners. Individuals with income above a floor of £130,000 are potentially liable. The restriction on tax relief will be assessed through an individual's self-assessment tax return and dealt with through a recovery charge.

It is expected that this change will affect around 300,000 taxpayers and could undermine the UK's long established approach to pensions taxation by creating uncertainty as to whether it "pays to save" in a pension.

Lifetime and Annual Allowance

The lifetime and annual allowances are to be frozen at their 2010/11 level of £1.8m and £255,000 respectively. Both are due to remain at these levels until at least the 2015/16 tax year.

Default Retirement Age

The default retirement age of 65 is to be reviewed but no changes will be made before April 2011.

Trivial Pensions

Further consideration is to be given to simplifying rules on commuting trivial pensions by allowing couples to combine their pension pots to achieve better value when purchasing an annuity.

PENSION POLICIES

One of the worst kept secrets has been confirmed and the general election date is to be 6 May 2010. So what are the pensions' policies of the political parties?

Conservatives – the Tories have confirmed support for auto-enrolment; restoring the link between state pensions and average earnings; ending the requirement to purchase an annuity at age 75; capping public sector pensions above £50,000; bringing forward the date at which the State pension age starts to rise to 66 to 2016 for men and 2020 for women and reversing the affects of the abolition of the dividend tax credit for pension schemes.

Liberal Democrats – the LibDems want to merge the basic state pension and state second pension into one; make the National Employment Savings Trust (NEST) more attractive to the general public by making it more flexible and restoring the earnings-link to State pensions which would include the abolition of contracting out.

Labour – their manifesto pledge is to raise basic state pension in line with earnings rather than prices by 2012 subject to affordability and fiscal position, but by 2015 at the latest, getting rid of the default retirement age of 65 and introducing more flexibility to make it easier for companies to run good pension schemes.

*Debbie Marten
debbie@pnpf.co.uk*

Pensioners Deceased

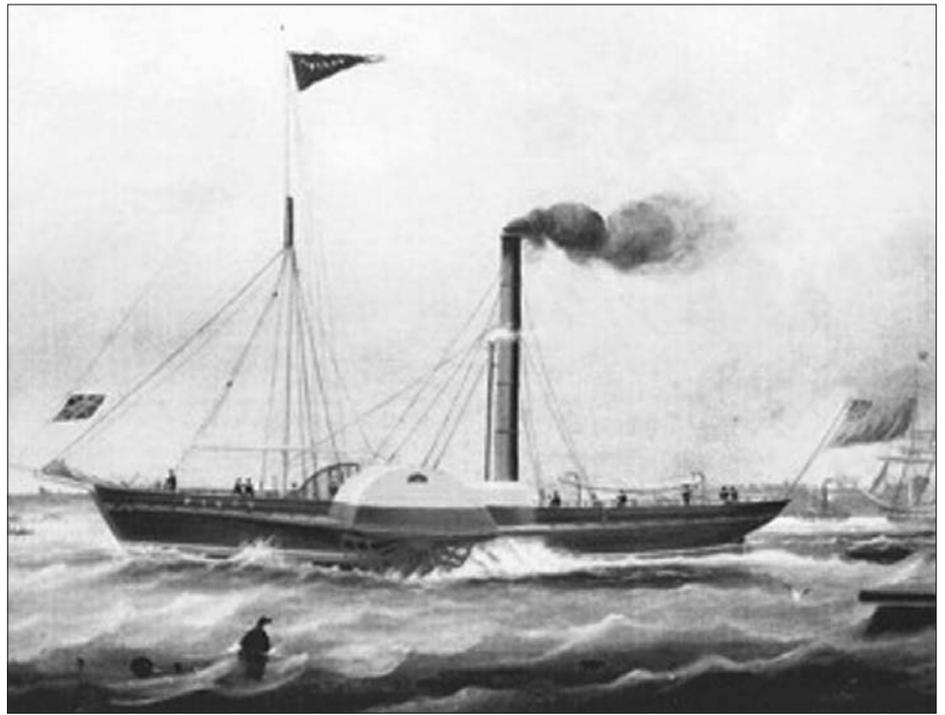
November 2009 - January 2010

CI Anderson	<i>Tees</i>
A Brines	<i>Belfast</i>
PG Hockey	<i>Liverpool</i>
JA Jones	<i>Harwich</i>
II Maclean	<i>Forth</i>
MJ Pengelly	<i>Liverpool</i>
JN Proffitt	<i>Liverpool</i>
E Schiller	<i>Torridge</i>
JB Wake	<i>Sunderland</i>
TC Walker	<i>Tees</i>
WH Young	<i>Tees</i>

TYNE CRUISING PILOT CUTTERS

The entrance to the River Tyne can be hazardous in bad weather for vessels under sail and was very much more so before the completion of the North and South piers. This fact posed many problems for Tyne Pilots operating a 'Boarding Service'. Traditionally their craft of choice for this operation was the 'coble'. The flat sterner coble was of unique design capable of being launched and recovered in adverse weather from the gradually shelving beaches found between Berwick and the Humber. The coble was developed for use in the coastal fishing industry and as such was originally in effect a cargo vessel. In addition to its capabilities aforementioned it was unrivalled in its ability to point very high into the wind. It is inherent that with increased specialisation in any area that there will be commensurate drawbacks in others. The coble could, in in-experienced hands, be a dangerous proposition. For pilotage purposes it was redeveloped more as a fast yacht. Pilots operating solely in the vicinity of their harbour often used a variation of the flat stem coble called a 'mule' but this variant could not be safely beached in bad weather.

Tyne Pilots generally 'sought' for ships between Berwick and



The first Tyne steam cutter PILOT of 1852

Flamborough and for that reason did in the main hold to their flat sterner coble. These craft could not only live at sea in the most adverse weather but also were the craft which gave the best chance of beaching safely in an emergency. The problem for Tyne Pilots was that of getting out of the Tyne entrance under sail during periods of heavy weather from Easterly quadrants and in particular during the duration of the ebb stream. For many years they petitioned the Pilotage Authority of the day, Trinity House Newcastle, to provide a steam vessel to allow them to get to sea on such occasions. These petitions went unheeded.

Tyne Pilots eventually decided to provide a steam vessel for themselves to maintain a boarding and landing service in bad weather. To do this they entered on a program of both chartering and of owning steam vessels to act as Cruising Pilot Vessels. I have been unable to determine all of those vessels chartered from time to time but the *Great Britain* and the *President* were amongst them. The first wholly owned vessel was *Pilot* which operated very successfully, was the source of a deal of salvage money for the pilots and during the course of her duties also saved the lives of a number of pilots and fishermen. *Pilot* was also used for coastal trips and probably was hired by Trinity House Newcastle from time to time for 'Inspections of Lights and Beacons' along the stretch of coast for which they had responsibility. *Pilot* was built at the South Shields yard of Andrew Woodhouse for the Tyne Pilots. Her particulars were as follows: Length 73Ft. B 165Ft. D 9Ft. Steam propulsion: 30 HP. Launched 18th August 1852. The accompanying illustration of *Pilot* cruising off the Tyne Entrance is that of a painting by John Scott who was a famous marine and landscape painter. His birthplace was South Shields and spent his early life at sea before becoming a pupil of John Wilson Carmichael. Scott, unlike Carmichael remained on Tyneside for his entire life.

The second vessel to be purchased by the pilots to operate in this capacity was the *Robert Ingham*.

'Authority' for the provision of pilotage services in Tyne District was eventually taken out of the hands of Trinity House in 1865 and was vested in the Tyne Pilotage Commission. However it was not until 1907 that the Pilotage Authority at last caused to have built a steam vessel to act as a cruising pilot vessel. This vessel was named *Protector* and was featured in the July 2009 issue of this magazine.

JH Burn, Tyne Pilot Retired



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Professional Research by Pilots – Hydrodynamics

By Mike Roberts AMNI, CpRINA (Harwich Haven Pilot)

As the UKMPA gears up for Continuous professional development (CPD) it is motivating to see the number of works being contributed by pilots and their districts into professional research in the different areas of pilotage.

I recently received an invitation from Peter McArthur, a Class 1 Pilot on the Canal, to trip with the Manchester Ship Canal Pilots and witness 'first hand' the investigations undertaken into marine Hydrodynamics and Interaction. MGN 199(M) and A.960 require pilots to be fully conversant with the effects of interaction and that is exactly what has been researched on the Manchester Ship Canal. As Peter McArthur put it "the Manchester Ship Canal is probably one of the largest test tanks in the world. Enclosed by locks, with no tide and good shelter from the elements, it provides an ideal venue for exploring theories and demonstrating exactly how hydrodynamic principles apply".

I remember when I was training, Senior Pilots would go on about not passing too close to other vessels on their berths, or would describe the effects of dragging them off the berth, or how a ship would behave in shallow water. A favourite topic was the peculiar behaviour encountered by vessels in the river. Tripping on the Canal was an excellent opportunity to see how it all worked in practice and to have the principles involved explained in some detail.

The MV *Bramau* a 90 metre vessel, loaded with scrap, was boarded at Latchford lock ready for her 21 mile outward Pilotage to Eastham.



MV Bramau at Latchford lock

At first the vessel had to navigate with a metre air draft to spare under the bridges whilst sections of the canal narrowed as swing bridges were negotiated. Peter McArthur was very good with his running commentary and explanations about the effects that were building around the vessel.

Being a tripper meant I could roam around the vessel and



Manchester Ship Canal Pilot Peter McArthur explaining the hydrodynamics



Peter McArthur and Harwich Haven Pilot Mike Roberts

actually study the hydrodynamics that were going on, not just from the bridge. I was able to move around on deck, observe the bow wave from the foc'sle and examine negative pressure fields forming amidships. It was interesting to see these different pressure areas that were influencing the vessel and observe directly where they were having an affect – not only around the hull but also on different structures of the canal. Over a number of years, Peter has developed his theory of ship generated 'Super Cells' which has significantly advanced our understanding of marine hydrodynamics. The theory explains why, even with a 90 metre vessel, the effect of the bow positive pressure field quickly builds up and is felt more than 200 metres ahead, with corresponding effects being experienced astern. These effects became increasingly apparent as the vessel picked up speed and the bow and stern wave became more exaggerated. At the same time, I observe areas where water was being dramatically sucked in towards the hull, thereby creating sudden washes on the nearby bank. Peter demonstrated that once you understood the underlying theory, the resultant effects were entirely predictable.



... water was being dramatically sucked in towards the hull

As we passed a moored working boat it was interesting to watch it surge, then draw away from the bank as our pressure field took effect on approach. With this demonstration, I could appreciate, more fully, the reasons for extreme caution in our district when passing moored vessels.

Nearing the lower reaches of the canal the extreme hydrodynamic effects became more evident. As the vessel passed off chutes of docks, suddenly a whirlpool effect would develop for no apparent reason. This, as was explained, was entirely predictable when hydrodynamic field interaction started to take place. The effects were most noticeable off knuckles, on dock edges, and around the stern and bow of moored vessels. You could actually see the mooring lines of vessels start to tense or slacken



... it was interesting to watch it surge

well ahead of us and old disused dock gates start to surge long before our vessel had passed.

The UKMPA attends various functions and events throughout the year and it is thanks to those Pilots, and their districts, who contribute dedicated research like this that UK Pilots' stand out in the Marine Industry as consummate professionals. Peter McArthur and his team have researched both Hydrodynamics and the legal aspects of Piloting (Peter is also a qualified lawyer); the Liverpool Pilots have developed their specialist Maritime Resource Management Course and have implemented their own bridge simulator for training; the Belfast Pilots have developed a course on safe embarkation and disembarkation at sea; the Section committee and the executives represent many working groups and the T&TC has recently been involved in the updating of the National occupational standards and A.960. On behalf of the UKMPA I organise the Seaworks exhibition in Southampton and attend the UK Trade and Industry (UKT&I) seminar for Global

ports (sponsored by HRH Duke of York, Prince Andrew). At the last UKT&I I attended Port representatives from various Embassies and consulates, were very complementary in their recognition of UK Pilots and their exceptional abilities. Every time I attend these events, I am able to point to contributions that have been made by the UKMPA Section committee, T&TC committee, along with the individual contributions from research undertaken in districts such as the Manchester Ship Canal, Liverpool and Belfast. Clearly, such research and development helps make UK Pilots stand out as serious professionals, earning us the correct recognition in the Marine Industry and justifiably assists with our move towards CPD.

Many thanks to Manchester Ship Canal Pilots Peter McArthur (Norwest Interaction Ltd), Ben Stroude and Mr Alan Feast (AHM) for a most enjoyable, and very educational, trip in their district.



The effects were most noticeable off knuckles ...

All In a Day's work!

Passengers on a cruise ship that stopped just 70m from the Gateway Bridge in Brisbane have paid tribute to the pilot and captain who saved them from disaster. Brisbane Pilot Captain Peter Liley was the pilot on board the 245m *Pacific Dawn* when the liner lost all power and steering just 700m away from the six-lane bridge over the Brisbane River.

Two tugs got the vessel under control, bringing her to a complete standstill 70m short of the bridge. A passenger observed that *"The situation was handled very well by Captain Turnbull and his crew, and passengers were informed of all developments."*

Captain Liley said he managed to stop the ship before it got to the Gateway. *"I was piloting the ship and we lost all propulsion. It's unusual, but we are trained for these sorts of things. If it was under the Gateway we could have drifted clear but it was before the Gateway."*

Capt Liley said a ship without power was prone to drift, and there was a danger it could not be stopped before hitting the bridge's pylons. *"We used two tugs to pull the ship up, and we pulled up before the Gateway. We then waited on the chief engineer on what services he could provide, but he couldn't provide any services so we devised a plan to take the 'dead' ship back to Hamilton."*

He added that the ship's captain had investigated what caused the fault and believed a fuse had been affected by a saltwater leak.

A spokesman for Carnival Australia, which operates the *Pacific Dawn*, said the cruise liner had suffered power problems but the fault was not a major one. *"It was a temporary loss of power,"* the spokesman said. *"It was a controlled situation."* The ship is OK and will set off for a South Pacific cruise.

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OBITUARIES

Trevor Calcott Walker 6th March 1930 - 30th Nov 2009



Trevor was born on Teesside and educated at Sir William Turner's School, Coatham, Redcar, a school of which he was very proud.

In 1947, he was apprenticed to the Tees Pilotage Service and for the next three and half years served as a Boat Hand on the Cruising Pilot Cutter *BO Davies*. In 1951, he went away to sea and was placed by the Authority with The Blue Funnel Line, serving in the *Dardanus*, *Dolius* and *Bellerophon*. He obtained his Second Mate's Ticket in 1953 at South Shields Marine College. Whilst waiting for a Pilot's Licence on the Tees he went back to sea, first with Cairn Line in the *Cairnavon* and then with Constantines in the *Edenwood*, *Gartwood* and *Southwood*. At last, the call came and in 1957, a Fourth Class Licence was granted. Rising through the ranks, he became a First Class Pilot in 1963 and a very successful career of thirty-seven years ensued. One which he enjoyed enormously and ended when he retired aged 64 in 1994.

So much for the bare statistics but what an interesting man lay behind them.

In the 1970's he led the way and with several of his colleagues chartered yachts on the west coast of Scotland for a number of years. They liked to think of themselves as the scourge of the Hebrides. Trevor also had a Private Pilot's Licence for light aircraft and there are many anecdotes that could be told of that activity, some of them quite hair-raising. He gave twenty-seven years to the Redcar Lifeboat Station, twenty-one of those as Chairman of the Management Committee receiving a Silver Badge in recognition. He wrote two books, the first about his time as an Apprentice and the second about his time as a Pilot. Apart from being a good read the books illustrate quite clearly that Trevor was a shrewd observer, that he had a way with

words, a keen sense of humour and the ability to capture a situation with a sketch. His passion was classical music, but he also enjoyed his cars, travel, football on TV and John Wayne films.

His family was all-important. He married Kathleen in 1960 and three children, Robert, Louise and Susan followed. They, together with their families including the grandchildren, are giving Kathleen a huge amount of support in her and their loss.

He will also be sadly missed by the colleagues he worked with and among his many, many friends.

John Johnston
Retired Tees Bay Pilot

Capt Andrew Brines 1929-2009



It was with great sadness that the Belfast Pilots learnt of the "passing west" of their retired colleague and friend Andy Brines.

Andy went to sea as an apprentice in 1946 working his way up to master in 1956. He joined Belfast Pilots as tradition would have it and drove the pilot cutter for some years. He first started piloting in 1963 and retired in 1993 with ill-health.

The 1987 act was probably one of his low points in his life. His removal from self-employment into employment was never smooth and it took its toll on him in many ways. Andy was a fighter and never gave up trying to restore the rightful position for pilots in Belfast. I can remember his joy when he heard that we had gone back into self-employment in December 2006.

As well as being a pilot, Andy ran a successful boat yard in Carrickfergus and was an active member of the local sailing club. Unknown to me, I was to work briefly with the man who once worked on my small yachts, and was an elder of my club, when I was a young lad.

The service to celebrate his life was held in St Nicholas's church Carrickfergus, on a cold December morning, in front of a

congregation who could probably have a place in the Guinness book of records for a record on combined sea service.

His passage from the church, passing under the church spire, which has acted as a safe leading mark for Carrickfergus Harbour for hundreds of years, was undertaken by four serving pilots of the Belfast Lough Pilotage Services Ltd. each one of us being proud to have known him, and honoured to take him to his final resting place.

Andy was always a joker, and he was, even after death, still about to play one last joke on us all. At the grave yard, his coffin took some persuasion to enter the hole in the ground. Was he playing with us, or should we have buried him on Belfast Lough?

It is to his wife Elizabeth, and sons Andrew Jnr and Michael, and the family circle to whom we offer our deepest sympathy.

Brian Wilson
BLPS Ltd

Michael James Pengelly 30th September 1949 – 1st January 2010



Mike was born in Swansea on 30th September 1949. His father, Ron was a merchant navy officer and following a careers talk at school Mike asked his father, "What's the best job in the world?" to which his father replied, "A Liverpool Pilot." So the seed was planted!

Mike's family moved to West Kirby and since my father was a colleague of Ron's he suggested that I should go and introduce myself and a lifelong friendship was born. Throughout the rest of our time at school our friendship grew greater especially since we shared the same ambition to become pilots. And we achieved it! Being older, Mike started one year ahead of me but we paired up together until our files were marked that we were not to sail on the same cutter together (we fancied ourselves

as union convenors).

During this time, following an argument, Mike actually resigned from the service but thanks to the intervention of Senior apprentice John Curry the matter was resolved, thus saving what turned out to be a magnificent career.

At this time Mike's pride and joy was his Triumph Spitfire with its great big fat "Go Faster Wheels!" The wheels certainly did their bit when was stopped by a motorcycle patrol and booked speeding. Having just left the boat Mike was still in uniform and when asked by the officer what uniform it was Mike replied "apprentice Pilots" to which the officer retorted "Be thankful I haven't done you for low flying then!"

Not long after this Mike met Lynne, their romance grew and eventually they became engaged and of course my mate had other things on his mind so I was relegated to having to give them one night per week on their own!

Due to major downturn of trade in the Port we apprentices didn't get our licences at the end of our time. Instead we were asked to follow a sea going career and wait for our appointment letters!

Mike joined Booth Line as 3rd officer and after a couple of trips he gained his 2nd Mate ticket and was promoted to second officer on the *Dominic*. About 6 months later we were together again when I also signed on the *Dominic* as 3rd Mate.

What a privileged experience for both of

us that turned out to be. We visited places around the world that most people – even today – only ever read about in National Geographic!

We returned home in the summer of 1975 when we were both due to study for certificates. Mike and Lynne got married during the Christmas break and I was honoured to be best man.

Mike passed his 1st Mate's certificate in the spring and returned to sea with United Arab Shipping Company. In due course Mike and Lynne were blessed with the arrival of their daughter Caraline, and I was again honoured to be chosen as her Godfather. In the natural order of things along came their son Ross, sadly I was away at sea at the time.

Mike went on to gain his Master's certificate and was promoted to Chief Officer. and shortly after this he was offered a position as Pilot in Bahrain where Lynne and the children were able to join him. After some time in Bahrain Mike moved to become a Pilot in Dar es Salaam.

And so to 1991. Home from globe-trotting, finally to live the dream. Mike had received his letter and was now a Liverpool Pilot.

During his progression to first class pilot his esteem amongst his colleagues and the Masters of the ships he piloted, grew. This led to him being elected a director of Liverpool Pilot Services Limited, a role in which he excelled, discharging his duties as

a Pilot and representative with great passion. He had the ability to see the funny side and raise spirits when gloom was all around and I think I can say with certainty that that all his colleagues regarded Mike as a fine pilot and a "Top Man".

Sadly, in 2004 he suffered health problems which led to his untimely retirement. It was not, however, all doom and gloom as in 2006 Ross and Nicki presented Mike and Lynne with their first grandchild, Joshua.

In late 2008 came the diagnosis that was to prove to be the beginning of the end, even now there were joyous times. Caraline and Raemonn were married in February 2009 and Mike was able to walk his daughter down the aisle.

Shortly afterwards he underwent major surgery where against the odds he pulled through and for a good part of the rest of last year seemed to be making progress. Unfortunately towards the end of the year he took a turn for the worse and was admitted to St John's Hospice on 29th December. On New Year's Eve I spent 3 hours sitting with Mike and we talked a lot about the past, and I like to think that he drew comfort from those words.

All our condolences are with Lynne, Caraline, Ross and the rest of the family over this truly tragic loss.

*Edited from a Eulogy
submitted by Keith Cederholm*

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Capt. Dennis Parsons, then Harbour Master, Port Kembla.

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