THE PILOT

The magazine of the United Kingdom Maritime Pilots' Association

SPRING 2013 Editor: John Clandillon-Baker FNI No: 312

The *Star Trust* in Dover Harbour approaching the Eastern Dock. Photo: Jason Wiltshire

In This Issue

UKMPA NEWS

DIARY DATE

The 125th UKMPA conference

will be held in

London

HQS Wellington

25th & 26th September

DAY 1

The morning will consist of closed private sessions for UKMPA members with the open session in the afternoon dedicated to National, European and International regulatory and political issues.

Evening: A **Conference Dinner** will be hosted by our Honorary President, Lord Tony Berkeley within the House of Lords.

DAY 2

Will feature a variety of top level expert technical presentations to inform delegates of the latest developments affecting our dynamic profession.
As always, this is the opportunity to meet up with old friends, colleagues and acquaintances and to meet new colleagues from around the UK and further afield.

For full details, visit the conference website:

WWW.UKMPA2013.CO.UK

Please note that this is an on-going site with additional information being posted nearer the date. Members should therefore check it regularly.

BRISTOL PILOT VACANCY

Bristol Pilots LLP require a marine pilot to commence training as soon as possible with a view to qualifying by 1st October 2013. Additionally, a waiting list of future pilots will be created in anticipation of forthcoming retirements. Suitable candidates will hold a current CoC Class 1 (unlimited) certificate and have previous pilotage experience or relevant ship handling experience.
Candidates should possess business skills, show leadership qualities, be good communicators and competent with modern technology. As a member of a small partnership you will be required to take an active role in the affairs of the business in addition to pilotage duties.
In the first instance, CVs and a covering letter should be sent to: -

Bristol Pilots LLP,
Haven Masters Building,
Avonmouth Docks, Bristol BS11 9AT
Tel:- 0117 9823081 Email: bristolpilots@btconnect.com

Closing date for applications 1st June 2013

PEC, A Qualification?

So, despite a valiant campaign whereby the UKMPA executive and members wrote extensively to MP's & Lords putting forward comprehensive professional arguments against the de-regulation of the PEC regime to allow any bona-fide "deck officer", rather than just the Master or First Mate, to obtain a Pilotage Exemption Certificate (PEC), the Marine Navigation (No.2) Bill has been passed without the amendments proposed by UKMPA Honorary President, Lord Tony Berkeley, to remove this clause.

The whole process has provided an insight into our "democratic" process of Government since what is most revealing is the undeniably significant influence of industry lobbyists in formulating legislation. The PEC deregulation clause was originally included at the request of UK aggregate dredger companies (and later apparently by the short sea ferry trade) seeking to avoid pilotage charges being incurred as a result of their Masters & Mates having their working hours restricted by the EU Working Time Directive!

During the debates, a nonsensical argument was put forward that a PEC was an essential "qualification" for a junior officer's career advancement. In a recent article, the UK Chamber of Shipping made this statement *"As the MNB 2 concludes its passage through Parliament, it is essential to increase the use of Pilotage Exemption Certificates (PEC) and allow all qualified deck officers to gain this qualification."* By pure coincidence, when challenging a point made by Lord Berkeley, Lord Greenway made the following statement: *"PEC examinations can be seen by both individuals and their employing companies as an important rung in the advancement of their professional careers. .... To me, there is no doubt that the extension of PEC eligibility will be of benefit to UK seafarers".* A PEC is of course NOT a qualification - it is a holder-specific permit for a specific vessel to be conducted in a compulsory pilotage area without engaging the services of an authorised pilot.

It is therefore a great irony that there is an apparent effort by some Industry bodies to stall the efforts of the UKMPA and other stakeholders to complete work on the long awaited Marine Pilot Certificate qualification despite it being first identified as a necessity post *Sea Empress* and still demanded by a number of government bodies. JCB

DYNAMIC UNDER KEEL CLEARANCE (DUKC®)

Jonathon Pearce (OMC International)

Where there is deep water with little or no wave motions the traditional 10% rule may be suitable.

INTRODUCTION

Traditionally, ports have operated under fixed rules which govern the minimum under keel clearance (UKC) to permit safe transit along port approach channels. These rules may have been in existence for many years and in most cases they have an unblemished safety record but as they are based on the assumption that this clearance is sufficient regardless of the prevailing environmental conditions they can fail, often with disastrous consequences and evidence shows that up to five percent of transits are marginal, even unsafe.

Technology is now available to effectively mitigate the risk of grounding. These systems model vessels dynamically in real time to accurately calculate the UKC which ensures that a vessel cannot transit unless it is safe to do so. There are also productivity gains in using such systems because, since the fixed rules are designed to cover the worst possible passage conditions likely to be encountered in a particular port, a vessel can usually sail with increased draught.

This technology is used operationally in the Dynamic Under-Keel Clearance System (DUKC®) developed by Melbourne based, OMC International. It is a real time UKC system used by ports and shallow waterways to maximise port productivity and safety. The DUKC® considers all factors that effect a vessel transiting a channel to determine the minimum safe UKC requirements and seamlessly interfaces probabilistic UKC planning (maximum draught & tidal windows) up to 12 months in advance with short term transit planning utilising real time environmental and vessel specific information which also includes UKC monitoring throughout the transit to deep water. With a track record of 20 years and more than 90,000 vessel transits globally without incident, DUKC® has a strong history as an operational tool.

The latest version, DUKC® Series 5, integrates proven core calculation engines with a web interface thus allowing easy accessibility to the system for approved users world-wide who are thus able to successfully execute UKC related tasks via the web. The web interface has gained acceptance by pilots as it allows on-board calculations through a laptop or tablet, such as an iPad.

The DUKC® system does not use the vessel's draught as the baseline, but a predetermined safety limit which must not be breached. Added to this limit are the vessel's dynamic movements which are modelled using the predicted environ-

mental conditions and this gives the minimum water level that is required to ensure safety at all times throughout a planned transit.

The methodology behind DUKC® has been internationally recognised, and the improved certainty and information that dynamic systems can deliver has seen regulatory bodies regarding such systems as an essential aid to navigation and these bodies are in the process of developing standards for dynamic UKC systems.

OMC is currently the only specialist maritime firm in the world whose core focus is providing proven technology for determining and managing real-time UKC in depth-restricted waterways. Increasing international recognition is being given to the significant benefits which dynamic determination of UKC provides as a risk mitigation tool and many ports have become increasingly interested in installing DUKC® systems.

OMC's experience and knowledge of hydrodynamics offers a paradigm change in this critical area of maritime safety and DUKC® has been recognised as a core e-Navigation concept, which is available and operational today.

STATIC RULES

The traditional static rules were devised when vessels were smaller, their speeds lower, ship/shore communications poor and technology generally unavailable to determine ship motions accurately. Therefore, there needed to be a simple method of calculating a safe UKC, and the generally accepted draft to depth ratio was 10% unless conditions dictated otherwise.

The Permanent International Association of Navigation Congresses (PIANC) guidelines recognise this ratio, but it is often forgotten that this is a minimum suggested safety clearance and is for calm waters only, and that twenty, even fifty, percent may be better, especially for ports that are subjected to wave motions.

The static rule tries to capture all anticipated factors in a single allowance. Essentially the only controllable factors is the tide height (and therefore transit time) and speed (which determines the amount of squat). Where there is deep water with little or no wave motions this may be suitable, but where depths are critical, and conditions more variable, there may be times when the allowance is marginal. Some ports do try to assess other factors, but whilst some of these factors can be precalculated, in practical terms elements such as wave motions are undeterminable once a transit commences. To address this issue, some ports apply a predetermined roll/pitch angle to give the ship-handler an indication of loss of UKC due to wave motion.

Speed is an absolutely critical element in maintaining safe UKC. Evidence has shown that pilots do not always maintain vessel speeds within the planned limits. If the transit is too fast, the ship will squat and heel in excess of the predicted amounts. Both effects are approximately proportional to the square of the speed so, if too slow the ship will not reach way points at required times and in tidal waterways, may therefore "lose" more water than predicted. Once underway these elements can be difficult to assess and can often be overlooked. Most ports will use a single squat formula, but there are many formulae in existence; the most appropriate formula will depend on the bathymetry, channel design and the type of vessel.

The biggest drawback with static rules is that they are wholly dependent on the environmental conditions. If they are too optimistic safety could be jeopardised; too conservative and they become uneconomic and this means that a port cannot maximise efficiency.

DUKC®

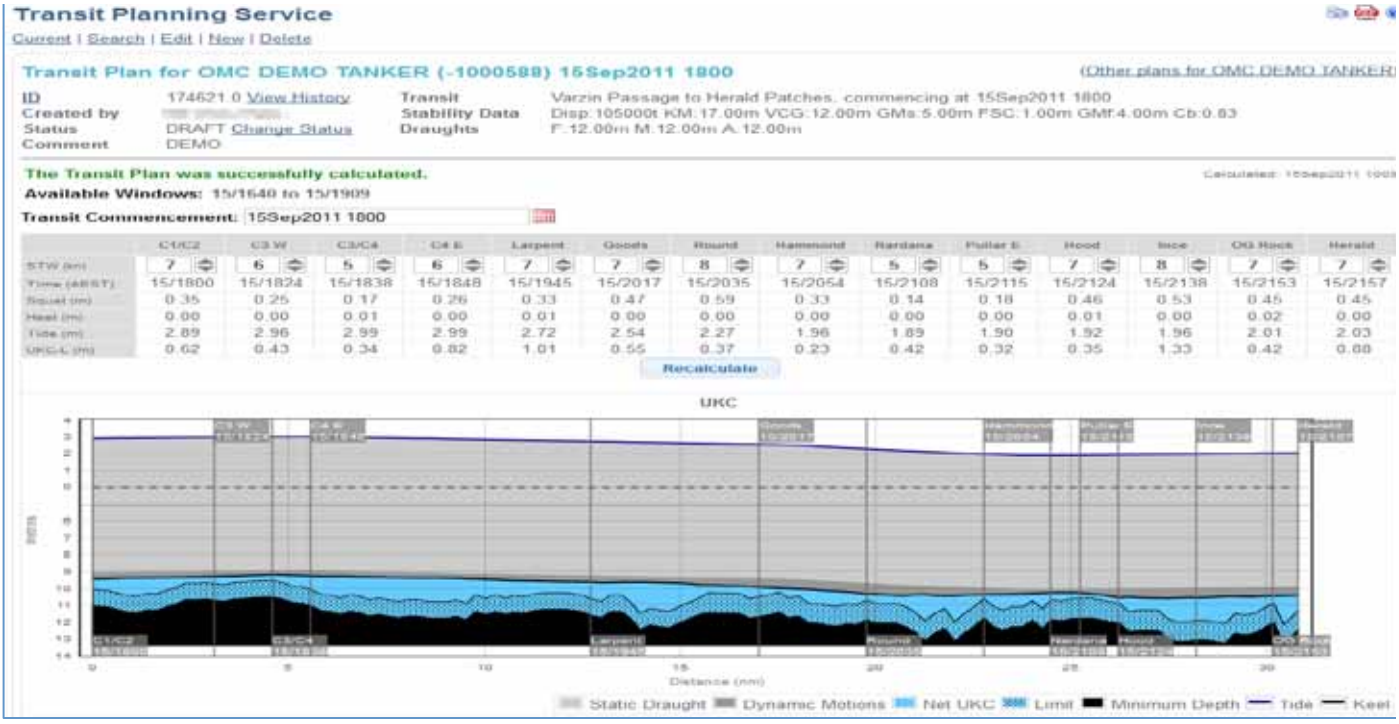
By contrast, dynamic UKC's are determined based on the actual vessel and its stability parameters along with the following real-time conditions:

- Wave height
- Wave period and direction
- Water levels
- Currents
- Tidal plane
- Wind
- The vessel's transit speed and waterway configuration.

Wave spectra, ship speed and water depths vary along the transit and the effect of these variations is computed by the numerical ship motion model used in each DUKC® system. In addition, wave spectra and tidal residuals will change over time, and these effects are also accounted for. With respect to squat, individual ships and the pertinent characteristics of the complete approach channel are modelled using the most appropriate squat formula, and include the effect of temporal and spatial variation of tidal currents during the transit.

Dynamic systems can be viewed as a "bottom up" approach. The system has, at its core, a minimum limit that must not be breached. Each of the computed factors is then added until

"The DUKC® considers all factors that affect a vessel transiting a channel to determine the minimum safe UKC requirements". *Photos: OMC International*



Each system is specifically tailored to the port and individual vessels

the minimum tide height is found that ensures a safe transit. Thus when the conditions are favourable, vessels may have greater tidal windows and can sail with a deeper draught; but when conditions are not, then tidal windows are reduced and may even be closed or a vessel may be able to proceed but with a lighter draught.

The system is also predictive, so if a pilot wishes to adapt his transit plan (especially the transit leg speeds), or if there is an unforeseen event (e.g. a berth delay), or a change in the environmental conditions the system will automatically update the safe transit windows

OMC's DUKC® system is now a mature product. The day-to-day operation of DUKC®, in preference to static rules for UKC, has moved the system from academic theory into a best practice in the real world. Integration of the sophisticated numerical calculations with real time environmental data ensures the integrity and quality of the dynamic data.

The accuracy of the numerical models used in the DUKC® System has been validated by undertaking more than 300 ship transits world-wide to obtain full-scale measurements of vessel speed, track and vertical displacements. These validation tests have been undertaken for a wide variety of channel widths, configurations and lengths, vessel types, sizes and stability conditions, vessel speeds, wave conditions, tidal regimes and current speeds. This modelling guarantees the accuracy and applicability of the models using customised numerical models to calculate the UKC requirements of a particular ship sailing in a particular waterway with respect to the environmental conditions at the particular time.

The system has also been rigorously and independently tested by specialist risk management consultants to ensure that it satisfies internationally-accepted levels of risk for safely managing the UKC of vessel transits.

The DUKC® product suite is continually being adapted in response to customer feedback and availability of new software technologies. New applications include the integration of the technology onto portable devices carried by pilots and into VTS Centres enabling vessel speed and predicted under keel clearance ahead to be monitored on board and ashore.

DUKC® SERIES 5: Product Overview

OMC International's DUKC 5 product suite, integrates the proven core calculation engines into a web interface permitting users to successfully execute UKC related tasks via the web rather than the traditional desktop-based user interface.

The software consists of several modules integrated behind a single web portal which can be arranged and configured to help manage UKC related problems ranging from long-term voyage planning to real-time onboard pilotage applications and to the monitoring of numerous vessels in real-time within a VTS centre.

At the heart of the DUKC® Series 5 software suite is a pair of critical engines: An Environmental Forecast Engine and a UKC Calculation Engine. Each engine consists of tested and proven sub-components. Built on top of the core engines are services which provide DUKC® applications with both web and non-web access to the underlying engines and each system can be customised to user requirements.

Networks of external data sources such as met-ocean sensors, AIS data streams and GPS positions are provided to the DUKC® system as required. All DUKC® outputs, diagnostics and statistics can be logged, queried or distributed in real-time to users.

The UKC Calculation Engine

This engine and its subcomponents manage everything from complex vessel motion calculations to the logic of transit planning. Its purpose is to compute and solve UKC formulae.

The Environmental Forecast Engine

This is the centre for all met-ocean inputs Its three primary functions are:

-To quality assure and filter all met-ocean inputs.

-To integrate all available met-ocean measured and predicted data, ranging from astronomical predictions to real-time sensor measurements to third-party (inc. national weather service) forecasts.

-To produce short term, medium term and long-term met-ocean forecasts.

-To predict met-ocean conditions in between sensor positions. For example, the engine computes tidal heights and streams between tide gauges and current meters.

WEB SERVICES

Voyage planning service

This calculates the probability of waves and tides from astronomical tide forecasts and historical wave and tide statistics, and uses these to calculate the most likely tidal window or maximum draught for a vessel. The level of probability is set to ensure that the vessel can transit but a user can decide on a greater 'risk profile' which would allow a greater draught but with the risk of missing a tide. This allows a scheduler to specify the level of certainty for the ship to transit without delay.

Met-ocean service

This allows interactions with the met-ocean engine described above and handles all requests related to met-ocean data.

Vessel service

This service provides access to a comprehensive list of recognised vessels and their particulars which can be linked up to external vessel data sources such as port information systems.

Transit planning service

The transit planning service manages real-time to short-term predictions of UKC which are automatically updated from latest met-ocean observations. The Transit Planning Service is used to plan vessel transits through the specified waterway using the latest met-ocean observations and accurate vessel load state information and AIS positions. This service is the core module for safe passage planning and allows accurate pre-planning, monitoring and contingency planning of a transit.

Optimiser Planning service

This service allows the optimisation of multiple vessel departures on a single tide whilst considering constraints such as tug availability, current restrictions and booking priorities.

Transit Monitoring Service On-board

OMC on-board solution provides UKC related information displayed within a charting package environment as overlay on top of a chart. This allows UKC information to be displayed more intuitively to pilots and allows horizontal navigation aspects to be included in the assessment of under-keel clearance.

The chart overlay display of UKC information allows pilots to make on the fly navigation decisions from an under-keel clearance perspective. For example,

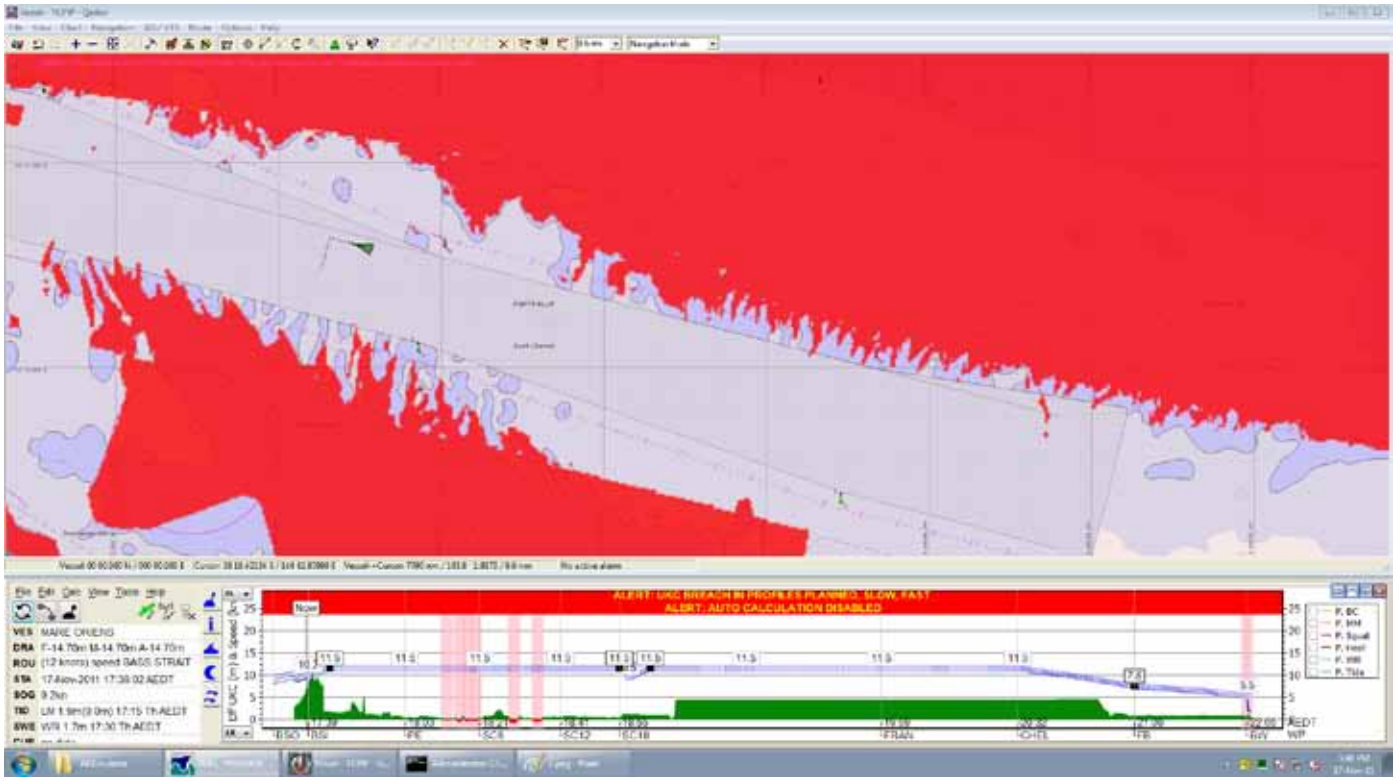
- making decisions about safe passing areas.
- Assessment of the impact of speed increases on the safe travelling corridor.
- Assessment of local shoals on the safe travelling corridor

The picture below shows a screen shots of a vessel transiting a channel. Red areas indicate 'no-go' regions where the DUKC® predicts the vessel to have insufficient under-keel clearance due to dynamic ship motions, which in this example is primarily due to squat.

Operations - Transit Monitoring Service Shore-based

The transit monitoring service automatically tracks and monitors the UKC of 'active' transit plans. Users who have been assigned permissions to access monitoring functionality can track the under-keel clearance of one or more vessels simultaneously.

The UKC information is updated con-



tinuously based using the latest met-ocean observations, vessel load state information and AIS positions. Tracking of vessels occurs automatically once a transit plan has been activated.

Reporting service

Allows searching and retrieval of archived outputs, previous calculations, errors and diagnostics. All calculations, errors, system messages and diagnostics are logged and can be queried if desired. Underlying the core engines and services are the various data storage components. Data storage structures include databases for vessel details, voyage plans, transit plans, met-ocean data and business messages.

Conclusions

The use of static rules at many ports needs serious consideration about whether they are suitable and if all factors are understood. The paradox of the static rules is that without an incident a port's static rules may appear validated and considered safe. In reality, where UKC limits are critical (which is increasingly the case with ever larger vessels being launched), and conditions variable, there may be times when the clearance is marginal and the port has experienced an unknown "near miss".

Recent developments in navigation technology make possible accurate planning and the continual monitoring, and control of the UKC of large vessels during transit along shallow waterways. These decision support tools, and the integration into navigation systems, such as a pilot's PPU, also allow the effect of alternative speed/sailing options on under keel clearance to be quickly investigated by pilots and masters in situation where the passage does not proceed as planned. The information that is now available through a dynamic system enhances the decision making processes of the port and pilot and complements the master/pilot information exchange.

DUKC® systems have a proven track record and since the methodology builds on the concept of a minimum clearance limit that must not be breached, DUKC® systems effectively control the risk of a touch-bottom/grounding incident. This level of risk cannot be achieved with static rules because the clearances vary and are determined by the environment present on the day.

For more information contact
Jonathon Pearce
jonp@omc-international.com
+44783351706

Chairman's Report

Don Cockrill

I am writing this having just sat with UK delegation at the IMO STW (standards of training and watch-keeping) sub-committee meeting. Although there were no obvious matters of significance to pilots in the agenda, it was important that pilots were present so as to be able to react and inform if required. IMPA has observer status as an NGO but it is also useful for pilots to accompany national delegations (as many do) to offer their expertise on practical maritime matters as well pilotage during proceedings. As yet we are not a standard part of the UK delegation (as other nations determine is necessary) but we are of course happy to be so if our national representative body at the IMO ever desires it.

Marine Navigation Bill (MNB): The Bill passed through the House of Lords on 24th April despite our best efforts to convince their Lordships of the dangers and irresponsibility of it doing so. Having attained Royal Assent, the next stage is for a working group to be set up under the auspices of the PMSC in which we will participate with other stakeholders to ensure a safe and robust process is incorporated into the Guide To Good Practice concerning "all deck officers" holding PECs.

It is perhaps worthwhile recapping the whole debacle of clause 2. The Draft MNB first appeared in 2007. It contained a proposal to extend PEC eligibility to "any person". Following consultation and a Transport Select Committee inquiry, which recommended the PEC deregulation clause be dropped, the Bill was eventually shelved since there was no parliamentary time for its process. There it lay except for a brief resurgence in 2009, which led to nothing. In 2010, Lord Berkeley was approached by the Dft to table a Private Member's Bill (PMB) in the House of Lords – The Marine Navigation Bill. This contained a clause which we now know as Clause 2. Despite our strongest objections (relayed through Lord Berkeley) for its deletion, the clause was published in the Bill. The following meetings were often intense with the UKMPA maintaining refusal to accept inclusion of the clause. Our position was that the Bill should pass through the Lords with its deletion. Clearly this was totally unacceptable to the Government as surprisingly and without any prior advice or consultation, a second PMB titled Marine Navigation (No.2) Bill was published, this time in the House of Commons and sponsored by Sheryll Murray MP. The offending clause now read "any crew member".

I met with Sheryll Murray and later with Jim Fitzpatrick MP who, as Opposition shipping spokesman, spoke in our support. Numerous letters were sent from the UKMPA and individual members to MPs, Ministers, Industry and other professional bodies as well of course the Dft. The end result was simply a wording modification to the bizarre non-STCW defined "Deck Officer". This was despite some very much appreciated, strong and erudite interventions in the house by a number of sympathetic MPs, notably Philip Davies MP who actually took time to read, consider and understood the implications of our submissions and arguments.

The Bill then passed through to the House of Lords, now sponsored by the Baroness Wilcox. The farce of the Common's process was repeated. Their Lordships chose to listen to obsolete, factually incorrect statements by once knowledgeable Peers who are out of touch with the reality of 21st century merchant shipping rather than accept the true facts presented to them by further letters and papers, input by Lord Berkeley and at meetings with the sponsor.

The United Kingdom, once revered in the maritime world but for some time relegated on the "respect table" within the international professional maritime community has now dropped a rung or two even lower with the acceptance of the ludicrous belief that junior officers can be in a position of highly responsible management and exercise a "command function" by holding a PEC.

Transport Select Committee report: The report of the TSC inquiry into pilotage was published in early March (http://tinyurl.com/bvryk9s) which was very sympathetic to our submission. We now await the Government's response which should be published in early May

EU – PECs & Ports Policy Review: I attended a workshop in Brussels in March on the European Commission's PEC review and all members have been encouraged to participate in the online questionnaire. Objections have been formally placed with the European Commission concerning statements made within the questionnaire, which are based on incorrect extrapolated assumptions from the poor accident data results of the PWC consultation of 2012.

The Ports Policy Review is on going with three target areas: PECs, Concessions and Competition. We are receiving mixed messages from the EC on how this will affect pilotage and are working closely with our colleagues in a number of European States to protect pilotage professional interests.

EMPA conference in Malta
(www.empa-pilots.org)

Eight UKMPA Section Committee, T&TC and Europilot members attended this excellent event in April. The high spot for us was the election of Captain Mike Morris (Manchester) as a vice president on the EMPA board.

ESPO conference in Varna:
(www.espo-conference.com)

Mike Morris and John Pearn will be attending this important event in May. John has also been invited to speak to a special pilotage safety conference in Rio de Janeiro.

London International Shipping Week:
(www.londoninternationalshippingweek.com)

The UKMPA is supporting and will be participating in this showcase event which is probably going to be the most significant of 2013 in the UK shipping and ports calendar.

All-Party Parliamentary Maritime and Ports Group and IMO presentations:

A number of Section Committee members and I attend these periodic meetings in parliament whenever possible. In March, I gave a joint presentation with Nick Cutmore of IMPA on pilotage. Unfortunately there were two major debates on going in both Houses and so attendance was not large. It was a worthwhile

effort though. We also joined forces with the British Tug Owners' Association at the IMO STW meeting where we gave a presentation on aspects of tug safety: Line disconnection, weighted heaving lines and excessive speed.

PNPF: Those of you who are PNPF members will be aware that the long running legal case has concluded and CHAs advised of their liabilities. This affects us all, PNPF members or not and our thanks must go to Joe Wilson, Paul, Tony and Richard Williamson (now retired) and their colleagues for the significant work put into achieving this satisfactory result. Unfortunately, some CHAs are choosing to target their pilots with the liability burden. If you find yourself in this position do not hesitate to contact a SC member or myself.

DfT: For the first time in many years, Mike Morris, Mike Robarts and I met with officers of the Dft in March to discuss a number of important items related to training, greater involvement with UK ports operational safety, the EC PEC review and a number of other matters. This was the first of what is intended to be regular "catch up" meetings, something which has been notably missing to date. One outcome (of many) is that we will give a presentation to Dft staff on pilotage in June.

Flying Phantom: You may be unaware that the Scottish Authorities have decided to take action against the Port Authority and Towage Company involved in this tragic case. (http://tinyurl.com/ced5uh4)

Meetings: Various other meetings, seminars and industry functions have been attended since the last issue of The Pilot by SC members and deputies as well as the T&TC members. This all takes considerable time by all involved both in preparation and post meeting reports. It is not unusual for attendees to be away from home for days at a time and the commitment involved should not be underestimated or indeed undervalued. These meetings have not been limited to national or even European concerns. As well as attending IMPA executive meeting in January, John and I met with a delegation from Bintalu (Malaysia) on a UK visit (*see page 16)* and I also visited the Virginian pilots whilst on holiday in the USA. If you have never considered it, give some thought to visiting local pilots whilst you are on vacation abroad, you will I am sure find it a very enjoyable, enlightening and memorable experience.

Good Communications: are essential to the efficiency of any organisation. As well as email, which is now the standard communication format with members, the UKMPA website is updated regularly and contains a wealth of information and it will shortly be the focus of an upgrade project. If you are not receiving the emails, please send your email address to Mike Robarts (secretary@ukmpa.org).

The UKMPA **LINKEDIN** discussion forum is active and @UKPILOTS on **Twitter** is proving extremely popular. If you think Twitter is only for your teenage children or those with nothing better to do but create their own "fame" (as I once did) it most certainly is not.

Housekeeping: On the UKMPA domestic front, **John Pearn** has taken over the insurance brief from **Simon Campbell** who has changed jobs and to whom we owe our thanks for the sterling work he has done over the years of his tenure on SC. One important point to note is the additional policy available for self-employed pilots which covers legal costs that may be incurred in contractual matters with CHAs etc.

Nick Lee (London) has taken over as Chairman of the T&TC from **Jonathan Mills** who has got a new job in Singapore. As you will all be aware, the T&TC is one of the most important UKMPA committees and I'm sure that members will wish to join me in thanking Jonathan for his valuable work during his time as T&TC chairman.

It is a pleasure to see that the subscription collection modernisation to Direct Debit has completed successfully thanks the huge efforts of Bob Watt our Treasurer and the much appreciated cooperation of all UKMPA members which made this change possible. The Associate membership category has started to take effect with a number of ex-pat pilots now in membership.

Charity work: We have for many years been involved in supporting various causes. This year we will be helping the Jubilee Sailing Trust by sponsoring one of their calendar pages and have recently assisted the Missions to Seafarers in one of their projects in a practical manner.

Finally, It is my pleasure to announce the long awaited publication of the UK pilotage history by Harry Hignett. Details of how to obtain a copy of this fascinating book can be found on page 12.

As the summer approaches, the weather improves but that is no reason to be less attentive. Many accidents happen in the most benign conditions. Be safe and be proud of your profession, once described by a senior UK government maritime official as the most honourable profession ever devised by mankind.

Don

Harwich Haven Pilots

Mark Murrison

This year marks the 150th anniversary of Harwich Haven Authority (HHA). Its predecessor, the Harwich Conservancy Board, was established in 1863 to conserve *"the only natural harbour and safe refuge between the Humber and Thames estuaries"*. This year also marks the 25th anniversary of Harwich Haven Pilots, when, following the Pilotage Act 187, pilots were transferred from Trinity House to HHA which provides pilotage services for ships using the ports of Harwich, Felixstowe, Ipswich and the small port of Mistley, as well as boarding and landing services for the Thames, Medway, Colne and Crouch. A total of 6168 ships equating to 186 million gross tons entered the harbour during 2012. There were 6229 piloted movements and a similar number of movements where the ship's masters held a pilotage exemption certificate (PEC), such as those on regular continental ferry or short sea container feeder services. Perhaps reflecting the wider UK economy, 2012 saw ship calls slightly reduced on previous years due to further consolidation of deep-sea container services. The long term trend is for ship calls to reduce whilst vessel size and volumes of containers handled continues to increase.

Risk Mitigation Measures

HHA employs 30 pilots and the Initial training consists of six months of tripping and simulator training where trainees will not only learn the detailed local knowledge and hone their ship handling skills but also develop the ability to assess risk. This ability to conduct a dynamic risk assessment is arguably a pilot's primary role. Following examination, pilots are initially authorised for ships up to 120 metres LOA and will continue their development through additional simulator training, assessment and examination over the next seven years until they reach Senior Pilot authorisation enabling them to pilot ships up to 368 metres LOA and unrestricted draft. Due to the diversity of traffic within Harwich Haven, pilots can find themselves piloting a state of the art Ultra Large Container Ship (ULCS) with a draft of 15 metres and under keel clearance (UKC) of 10% of draft, followed by a small coaster to Mistley, both challenging pilotage manoeuvres requiring different skills and experience to achieve a safe outcome.

Pilots are of course part of a team. At Harwich the ethos is very much as an integrated port operation and therefore we work closely with Harbour Masters, VTS and all the other port departments. We operate a two boat cutter service with a third boat available at one hours notice. Boarding and landing of deep draft ships is conducted at the Sunk Pilot Station, 3 miles east of the Inner Sunk light float, some 16 nautical miles offshore. The Authority has recently taken delivery of the second of four new 16 metre pilot boats built by Holyhead Marine incorporating a double chine hull for fast transit and stability when boarding and landing.

Economies of Scale

The current market trend is for larger ships, between 13,000 and 18,000 TEU to displace the current ships of 3,000 to 8,000 TEU which will inevitably impact on the numbers of vessels being handled. As in many ports, HHA pilots have had to adapt to the steadily increasing size of vessels from the first Maersk K Class vessel (318m LOA, & 7000 TEU) in 1998 to the Maersk E Class (397m LOA, & 15,200 TEU in 2006. Other container shipping companies have also invested in larger tonnage and senior pilots are routinely handling 350m - 400m vessels. Thus over a twenty five year period, length has increased by 30%, beam by 75% and displacement by 142%. The windage of such vessels amounts to 15,000m^2 equating to a wind force of 260 tonnes in 35 knot beam winds!

It has been recently estimated that in the Asia-Europe trade, operating a 14,000 TEU ship would generate a $150 per TEU cost saving advantage over an 8,000 TEU ship for each round voyage, depending on the fuel price. When you multiply up and consider that each ship will complete five round voyages per year you can begin to appreciate why container operators in the Europe-Asia trade are so keen to join the ULCS club. It has also been estimated that the value of the cargo when a ship of this capacity departs from the final loading port in China is in the order $1 billion. With the anticipated proliferation of ULCS in the coming years, UK ports will therefore inevitably be handling more of these vessels.

A New Generation

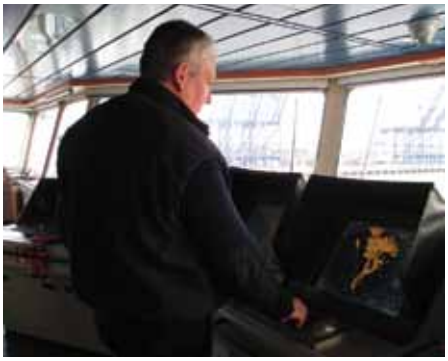
Maersk, are currently building the first of twenty "Triple E" (Economy of scale, Energy efficient, Environmentally improved) class ships. Due to be delivered between July 2013 and 2015 these ships will be 398m LOA and 59m beam and

capable of carrying 18,000 TEU. These ships are more full bodied and have been designed for slow steaming. They will have twin engines and twin inward turning fixed pitch propellers. Each engine will generate 43,000 HP which is relatively under powered for a container ship.

The ships have therefore been optimised for long ocean passages and not necessarily for their ability to manoeuvre in confined pilotage waters. With this in mind, Harwich Pilots have conducted a series of ship simulator trials with HR Wallingford, who provide the accurate vessel modelling and ship manoeuvring software required, in order to assess the risk mitigation measures, towage requirements and the likely parameters that need to be in place prior to the arrival of the first in class. Following these exhaustive studies, HHA has confirmed the feasibility of being able to safely handle the Triple Es using the existing tug fleet if and when they call at the Port of Felixstowe.

The Future

Looking ahead it seems the next five years will see the rapid expansion in the numbers of Ultra Large Container Ships, with UK ports struggling to keep pace with a corresponding investment in port infrastructure required. This is despite the current expansion at Felixstowe, reconfiguration of container berths at Southampton and the proposed new London Gateway project which is due to open later this year. Despite the current economic situation, world trade is expected to grow in the long term driven by the emerging economies of China, India and Brazil. Therefore, the opportunities and prospects for the container ports industry in the UK are good in the long term. Container ships are set to increase in size further with the maximum ship dictated by the limits of the Suez Canal and Singapore Straits, key choke points for the Asia-Europe trade and de-



signs for 22,000 TEU capacity ships have already been drawn up.

HHA remains proactive and is already undertaking further studies to evaluate future capital deepening should the need arise. Harwich Haven Pilots will also continue to invest in the professional development of its pilots in order that they can conduct the pilotage and mitigate the risks in handling what are some of the largest ships currently afloat; not only to safeguard the port infrastructure, but also to protect the Areas of Outstanding Natural Beauty, Sites of Special Scientific Interest and local nature reserves which we are fortunate enough to have adjacent to the Rivers Stour and Orwell.

Mark Murrison
Senior Pilot: Harwich Haven Pilots

Norwest Interaction wins two Gold awards!

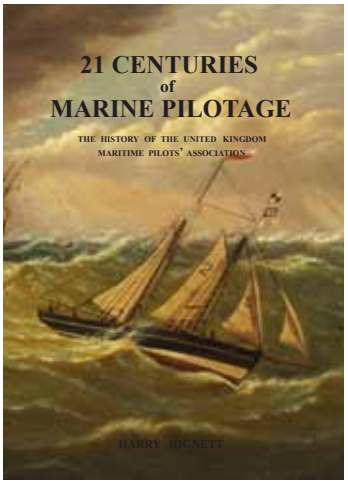
Norwest Interaction, a company founded by UKMPA member and Manchester Pilot, Peter McArthur, has been working in partnership with **Videotel Marine International** of London to produce a **Hydrodynamics and Interaction** training programme. Their joint endeavour has been rewarded by winning two gold awards gaining both a '**Gold REMI Award**' in the 46th Annual Worldfest – the Houston International Film Festival along with a second **"Gold Reel"** award in the Training and Education section at the **Media Communication Association International Awards** in the USA.

Based on the IMarEST accredited hydrodynamics training courses developed by Norwest Interaction which were nominated in the hotly contested **Lloyds List Global Awards 2012,** the production is designed to inform and educate both mariners and those in related disciplines who need to understand interaction at a very practical level. The programme outlines the development and generation of ship generated pressure fields in a way that has never been explained before.

From the outset, Videotel and Norwest were supported by every sector of the maritime industry. The project steering group included representatives from the IMO, UKMPA, IMPA, the P&I Clubs, Warsash Maritime Academy and a number of shipping companies.

Having already achieved outstanding success with their hydrodynamics project, further joint ventures between Videotel and Norwest are already underway. In the meantime, Norwest Interaction continue their research, developing current theories and making significant advances in the new field of molecular hydrodynamics – an area that is producing significant findings that will impact on the maritime, environmental, meteorological and engineering communities in the future.

I hope to provide additional information regarding this production in a future issue. JCB



The UKMPA is pleased to be able to offer working and retired members a copy of Harry Hignett's history of the United Kingdom Maritime Pilots' Association at a **special discounted members only price**.

If you would like to receive a copy please send a cheque to the value of:

£10.00 (inc. P&P) made out to: The UKMPA

To take advantage of this offer members should send their order along with a full postal address and a phone number to:

The UKMPA Chairman,
29 Edith Road,
Faversham, Kent. ME13 8SD

Non UKMPA members may obtain a copy at the full price of **£15.00**
By post to: **Jeremy Mills Publishing,**
113 Lidget Street, Lindley,West Yorks HD3 3JR
By telephone: 01484 463340
By email: **sales@jeremymillspublishing.co.uk**
By secure online shop: **http://tinyurl.com/d42rtx4**

OBITUARIES

Herbie Jones 1933 - 21012

Herbie Jones was born on 10th June 1933 at Dundee . He was educated locally in Dundee and he then went to the Abbey School at Fort Augustas at the Southern End of Loch Ness. This school was run by Benedictine monks and he and his two brothers all attended there for their secondary education. In May 1951 he was indentured as an apprentice to Eagle Oil and Shipping and served four years starting out on the *MT San Leonardo*. He then served on various vessel during his apprenticeship and after three years was promoted to 3rd Mate for the rest of his time.

After passing the 2nd Mate's certificate he returned to Eagle Oil and continued to serve on various vessels until 1960 when he briefly sailed on the vessels of the Ellerman Papayani Line. He seemed to like the short sea trades and in October 1961 he joined MacAndrews and was promoted to Mate in 1961.

Around this time he went to see a Yehudi Menuhin concert at the Royal Albert Hall and met Mara, from Italy who had gone to see the same concert. They could not get tickets so instead went to the Cafe de Paris and danced the night away. Two years later they were married in Treviso, in Italy but settled in Shenfield near Brentwood in Essex.

In 1968 Herbie was called by Trinity House to the London North Channel district as a pilot and with Mara and their children Paul, Robbie and Mark moved to Dovercourt (Harwich) . He settled well in Harwich and became a well known personality. All those who knew him were rewarded with the "Happy Herbie" smile. He was one of life's gentlemen who always looked on the bright side of life.

He served out of Harwich until the change over in 1988 when he continued to pilot for Harwich Harbour. He eventually retired in June 1998 at the age of 65 and the photograph was taken during his retirement party which was held on a Thames barge that the following day he sailed up the Orwell to Ipswich.

This was not the end of Herbie's career in pilotage since he was so fond of ships and the sea that he became licensed pilot for Brightlingsea and Creeksea. He continued serving as a pilot there until 2012 when he broke his leg. By this time he was 77 years young and the oldest serving pilot in the United Kingdom.

In addition to piloting Herbie also served time as navigator onboard the Sail Training Association vessels *Malcolm Miller* and *Stavros Niachos*.

Herbie and Mara had a holiday home in Italy and they loved to go there in the summer months and spend time in the surrounding vineyard.

Herbie was one of those characters who never seemed troubled and always smiled, was always happy and looking forward to whatever the day would bring. He will be sadly missed by all who knew him as witnessed by the numbers who attended his funeral. He had one request that on his tombstone was the word Seafarer which sums up his love of the sea and ships. Goodbye to a seafaring gent.

Martin Dicks. (Harwich Retd.)

REMEMBER

If you are involved in any incident (no matter how trivial it may seem at the time) it is imperative that you complete an incident report and forward it to the insurance company.

THE INCIDENT REPORT FORM WITH INSTRUCTIONS CAN BE DOWNLOADED FROM THE UKMPA WEBSITE.

See page 19 for contact details

Frank Knowles 1940 - 2012

American pilot, Frank Knowles, died following a fall from a pilot ladder in the early hours of 13th March this year. Although not a UK pilot, I have included this tribute as a reminder to all pilots of the dangers inherent in pilot ladder transfers.

At the time of writing the official report has not been published but when it is the UKMPA will pass on any "lessons learned". Meanwhile, the following outline account is compiled from press reports at the time. Stay Safe! JCB

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While boarding the vessel *Pipit Arrow,* at the Panama City, (Florida) Sea buoy, 73-year old Captain Frank Knowles, fell from the vessel's pilot ladder and was unable to be immediately recovered in the early morning darkness.

An emergency helicopter and fixed-wing aircraft from the US Coast Guard were immediately deployed, however two hours later his body was recovered by the *Pipit Arrow's* fast rescue craft.

His colleagues remember him as a fantastic ship-handler, a good friend, and a huge Alabama fan.

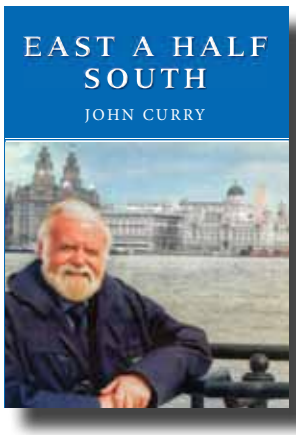
Captain Knowles was a licensed pilot of the St. Andrew Bay Pilots Association, which serves the Ports of Panama City and Port St. Joe, and he was also a harbour pilot for the Port of Pensacola. The following is a statement from the Florida Harbour Pilots Association:

"*We are deeply saddened today at the loss of one of our fellow harbour pilots and a dear friend. Captain Frank Knowles has been a dedicated and brave harbour pilot since he was licensed in 1976. Our thoughts and prayers are with his wife, Gail, and his family. Words cannot express the grief and sadness that every pilot across the state feels today at this tragic loss*"

According to state and federal protocol, every accident is thoroughly investigated. Further details will necessarily have to await the outcome of that investigation."

Our condolences are with his wife, Gail, and his family during this difficult time

BOOK REVIEWS



I am pleased to announce the publication of Retired Liverpool pilot, John Curry's, autobiography. As I anticipated in my pre-publication notice in issue 310, John has produced a well written account of his life in Liverpool in general and time serving as a Liverpool pilot in particular.

Starting with his passing of the pilotage apprentice interview in front of the Liverpool Pilotage Committee at the age of 16, John takes us through his period of initial sea time which was followed by time served on the cruising cutter as a junior deck hand where, in addition to undertaking all the menial tasks associated with being a crew member such as washing up and polishing brass, John gained his first boat handling experiences manning the boarding and landing "punts" which transferred the pilots between the ships and the cutter. A further period at sea to obtain the required professional certificates was followed by a brief spell back on the cutter as Senior deck hand prior to being called to take his examination to become a Third Class pilot.

With his new 3rd Class certificate duly obtained, John embarked upon his long and fascinating time served as a Liverpool pilot. The rest of the book consists of John's experiences as a pilot rising through the ranks to become a senior pilot right up to his retirement after 39 years service in 2009*. As you can imagine, any pilotage career spanning nearly 40 years involving piloting around 6000 ships will have had many memorable moments, both good and bad and John's book provides a full account of many of these. Storms, adverse tides, near misses, friendly and grumpy Captains, tricky manoeuvres are all there in abundance!

John was also deeply involved in the post 1987 Pilotage Act "politics" and as Chairman of the pilots' committee successfully led the battle to return the service back to self employed status which was achieved in 1997. However, John was not just involved in pilotage since as a mature student he gained a Master's degree in Medieval French history! From an early point in his career he also became a volunteer lifeboatman with the West Kirby inshore lifeboat where he served for over 20 years until he reached the compulsory age limit for serving crew. However, John's involvement with the RNLI didn't end there since at the time he retired as an active crew member, the All weather lifeboat station at Hoylake was looking for a Deputy Launching Authority to which he transferred , subsequently becoming the Station's Lifeboat Operations Manager, a position which he still holds.

For pilots, this book provides a well written account of everyday pilotage which we can all appreciate. For the general reader, as well as providing a valuable insight into the role of a pilot, John's book also provides an interesting and lively record of the changing pattern of shipping on the Mersey over the last 50 years .

*(see PILOT 298, July 2009 www.pilotmag.co.uk/2009/09/10/liverpool-pilots-retire-another-end-of-era/) JCB

East a Half South

Countyvise Ltd (www.countyvise.co.uk) Price £8.99 +p&p

ISBN: 978-906823-72-6

Signed copies, available from John (£11.50 inc p&p): john.curry15@yahoo.co.uk,

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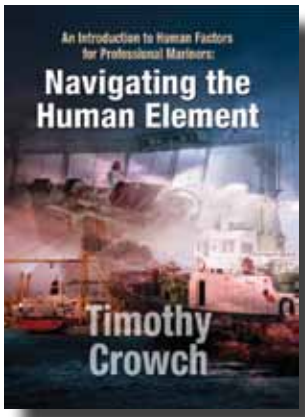

For several decades the importance of the Human Element has become an increasingly integral part of all aspects of professional maritime training. However, those wishing to learn more than the information imparted to them during resource management training courses have generally had to read erudite and expert information contained within books written for the Human Factors specialist student or the Aviation and other high risk industries, often needing to interpret the contents to relate to maritime situations.

Navigating the Human Element is specifically written for the mariner. Although described as "an introduction" its content and style make it a suitable reference not only for the Human Factors novice but also more experienced ships' personnel who already have knowledge of this vast subject. Ideal as a book to refer to when returning on board after a period of leave.

It is written in a personal manner, as a (obviously one way) conversation between the author and reader. Its language is clear and concise with minimal use of specialist terminology. It will therefore possibly suit those for whom English is not their first language.

Content wise, it starts with a basic introduction of the concept of Human Error and other Human Factor elements. The following 10 chapters go on to deal with various practical aspects of daily shipboard duties with particular emphasis on communications, relationships, personal health and fatigue management. The final chapter gives simple, valuable advice as to how to proceed to further enhance ones skills in managing the human element issues on board ship.

The Author is highly experienced in Human factors with an extensive aeronautical background as both pilot and accident investigator. He works with P&I clubs, ship owners and ship managers globally assisting in the establishment and maintenance of effective and productive open safety cultures, educating and training corporate management, staff and ships personnel in safety awareness and strategies.

Although primarily aimed at ships officers (and crews), the book is also very relevant to Marine Pilots at every level of experience and is a suitable companion to other works on the subject.

Don Cockrill Chairman. UKMPA

The book is available priced at £20 + postage from:

http://www.nthe.co (ISBN: 978-0-9576017-0-3)

Bristol Channel Pilots: William Selway & William David Selway

The only picture we have of William Selway is this one of him sitting on the floor with his hat in his lap representing Bristol Pilots at a conference of UK Pilots in Cork (year unknown). He was born about 1824, died in 1902 and is recorded as having sailed in *Speedwell* 1863-67, *Lady Clive* 1867-85, *Jessie* 1886, *Stranger* (which he owned)1887-89 and *Hope* (1892). William's son, William David Selway was born in Pill in 1858 and indentured in 1875 at the age of 16 to Charles Hill of Bristol. He was serving in the *Moss Rose* when his indenture ended on 11th May 1879 and paid off at Gloucester on 18th August 1879 after a voyage to Quebec lasting 3 months under a master named John McNairs.

The barque *Moss Rose (pictured below)* was built in 1863 by Thomas Hilyard at St. Johns, New Brunswick. She measured 153.3 ft long and 797 tons and remained in service until 1886. In the painting, she is shown off the South Stack, North Wales. The Skerries Reef and lighthouse are to the left of the painting, and the harbour of Holyhead is hidden behind the hull of the barque. At the foremast flies the flag requesting a pilot. Behind the ship, a two-masted pilot schooner races for the ship which has just begun to shorten sail.

From 1879-90 William David Selway assisted his father in various pilot boats and for 13 months in 1891/2 served as an AB in the Home Trade on the 825 ton *SS Nigel* under the Master William Reed. Then for 10 months in 1892/3 he was an AB in the North Atlantic Trade on the London registered 2154 ton, 250HP, *Bayonne* under Masters Payne and Manning. His voyages were of 4-6 weeks duration and he was engaged and discharged variously at Cardiff, Liverpool, Tilbury and Avonmouth.

In 1894/5 William obtained references from pilots Edward Edwards, William Hunt (*Olive*), JJ Carey (*Stranger*) and W Howe (*Madcap*) commending him for a Channel Pilot's Certificate. He was eventually made a pilot in 1896 after an apprenticeship in sail of over 4 years, 8 years assisting his father, over 6 years with other pilots, also serving nearly two years at sea on steamships. Once qualified he is recorded sailing on *Lady Clive* (1896-98), *Olive* (1899) and *Freda* (1901-19). William had the *Freda* built for him by Rowles of Pill in 1901 and named her after one of his daughters.

William David Selway

Amalgamation of the Bristol Pilot Service followed the 1914-18 war and William served on the *SS Queen Mother* from 1920 as the old sailing cutters, including *Freda*, were sold off for conversion to yachts or fishing craft or broken up. He retired in 1924 after serving 28 years in the Pilot Service. He died on 18th May 1934 and his funeral was attended by no less than thirty serving and retired Bristol Channel Pilots. The lives of these two Selway Pilots spanned 110 years but no other Selway followed their path.

William David Selway married the daughter of a Master Mariner in 1881 and had four daughters and two sons. The younger son, Hubert James Selway, intended to follow in his father's wake as a Pilot but sadly was drowned by enemy action on Easter morning 31st March 1918 whilst serving as officer on the *SS Excellence Pleske*. She was a defensively-armed British Merchant Ship which was torpedoed without warning and sunk by submarine 2½ miles SSE from Dungeness. 13 lives were lost in total.

William David Selway on board the *Freda*. The photo was probably taken during her construction in 1901.
All pictures from Alison Bergqvist's collection

Alison Bergqvist (nee Selway)

RETIREMENT? YES! IT'S YOUR EDITOR

This year I will be 62 and so my thoughts are turning to post pilotage leisure activities for when I retire from piloting in 3 years time. Seventeen years ago, during a chance meeting with the last editor, the late John Godden, I asked him who was taking over the editorship of the magazine since he had announced his intention to stand down as editor. When he advised me that there had been no response to his appeal for a replacement and that the magazine would probably cease to exist, I rashly agreed to take it on for a few issues until someone more qualified who could read and write more equolently (*sic!)* than me stepped forward. 65 issues later it's now my turn to stand down.

You will recall that in 2011 I advertised for a replacement which did result in a volunteer coming forward but unfortunately he subsequently had to withdraw due to his becoming involved in another project. So, having given the matter some considerable reflection (I don't want to be writing my own obituary!) I have decided that my last issue will be the Autumn one of this year and so, if any of you wish to try your hand at editing, please get in touch.

The future of the magazine will be an agenda item at the September conference which is also appropriate because I have been thinking that it may be time to consider changing the format into perhaps an e-zine accessible from multi platforms. Such an update would tie in with the planned upgrade of the UKMPA website that Don mentions in his report on page 9 and Section Committee already have a few ideas. However, it's your magazine so, even if you don't wish to volunteer to be the editor, if you have any thoughts on how the magazine might evolve please get in touch or better still book a place to attend the conference (www.ukmpa2013.co.uk) which I will be attending. I will, of course, continue assist in any handover / format transfer as required.

John Clandillon-Baker: editor@pilotmag.co.uk

Magnetic Pilot Ladder Securing System

Dutch company PTR Holland BV has produced a magnetic pilot ladder securing system which would seem to provide a quick and efficient method of securing the pilot ladder to the ship's side in accordance with SOLAS Ch.V specifically designed to make life safer for pilots.

The manufacturers make the following claims:

-These Hull Magnets, designed to withstand aggressive marine environments, have no internal moving parts or entry points for sea water – a natural enemy of neodymium magnet material.

-Powder-coating in safety yellow for high visibility, and resin encapsulation of magnetic elements makes the product seaworthy.

-In addition they are lightweight at around 3 kgs, yet immensely strong, providing more than 800 kgs of clamping force even through many layers of paint and salt scale and grime on a ship's hull. A delrin roller makes the Hull Magnet simple to attach and release.

A video showing the system is on the PTR Holland website at the following link:

www.ptrholland.com/index.cfm?page=Products&product=pilot+ladder+safety_magnet

If any of you have seen this system in use I would be most interested to have feedback on its effectiveness and also any feedback from the crew since, if it works as claimed, it would appear to be far safer to rig than the existing rope lashing through the lashing points set into the ship's hull, which are rarely located in the prime position! JCB (editor@pilotmag.co.uk)

Bintulu Pilots Visit London

As mentioned in his report on page 9, Don Cockrill met with a delegation from Bintulu in Malaysia who generously

donated the above plaque to the UKMPA.

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With this issue members have received the UKMPA's guide to ACD usage which has been produced by Aberdeen pilot, Tim Wingate. Aberdeen pilots probably have the most experience in handling vessels fitted with ACD propulsion units and although the illustrations refer to supply vessels, the general principles (except perhaps for "walking") remain the same for any size of vessel and the UKMPA thanks Tim for the work that he's done in producing this clear and concise guide. *JCB*