

THE PILOT

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Editorial

The last year has seen several investigations into incidents involving pilots and one factor emerging is that frequently there has not been a clear communication between the Pilot and Master as to the intended passage / manoeuvre. In most cases the paperwork exchange has been correctly undertaken but the arrival of Voyage Data Recorders (VDR) means that conversations between the Master and pilot prior to an incident can be replayed and examined and these are revealing that frequently the exchange is limited to ticking boxes with little or no elaboration on detail. If the Master doesn't ask for details and the bridge team takes little interest in the passage then the scene is set for an incident resulting from "single person error". The increasing fitting of VDRs means that pilots must adopt a professional attitude and, in addition to ticking boxes on forms, should explain to the Captain all relevant information for a passage and encourage dialogue. In turn the Captain has a duty to expand upon the information contained on the pilot card. When it comes to manoeuvring on or off a berth it must be clear who is undertaking the manoeuvre and even if the Master is handling the ship the pilot has a duty to fully apprise him of his local knowledge regarding tidal effects, other traffic movements etc and monitor the manoeuvre. Regardless of who is handling the ship both the master and pilot should be clear as to how the manoeuvre will be undertaken to ensure the safest outcome.

Following the *Cosco Busan* allision with the Bay Bridge in San Francisco the conduct of pilots is being examined in detail and a timely article by Rotterdam pilot, Margriet Torpstra, on page 11 expands on this topic and its content should be noted by all pilots.

In addition to this article, Margriet Torpstra, has also produced two training DVDs on the Master/Pilot relationship in association with the Dutch shipping group Vroon BV (see review on page 14).

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SQUAT - Part 2

Mud navigation and negative under keel clearance

Whilst wading through the various documents to produce the article on squat in the January issue, I came across several references to the linked topic of muddy water navigation and the concept of negative under keel clearance (UKC).

I must admit that until I read the research I had no understanding of this form of navigation and felt that it must be another theoretical area of research with no feasible practical application because we have enough trouble presenting masters with passage plans using minimum UKC and would therefore have no chance trying to explain to a stressed out Captain that the passage plan would involve navigating through areas where the draft would be greater than the charted depth!! However, there are several ports where the liquid mud in suspension is sufficiently fluid to be navigable and the difference between the echo sounder depth and the solid mud depth can be considerable and there is therefore a commercial advantage to be gained by accurately measuring the navigable mud layer. The depth where the navigable mud becomes non navigable is called the "Nautical Bottom". One major port where this phenomena is present is Zeebrugge and it is therefore in Belgium where most research has been undertaken. As with squat, the maths and physics are complex and the following is therefore an attempt to de-mystify the concept.



Navigable mud can open the operational window for port operations. Photo JCB

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To assess the feasibility of navigation in muddy navigation areas the "nautical bottom" concept was introduced and in 1997 the Permanent International Association of Navigation Congresses (PIANC) formalised the following definition:

The nautical bottom is the level where physical characteristics of the bottom reach a critical limit beyond which contact with a ship's keel causes either damage or unacceptable effects on controllability and manoeuvrability.

This definition is somewhat vague in that there are so many different ship types that what may be a critical limit for a laden bulk carrier might have no adverse effect on a fine lined containership. Fortunately the researchers have examined different ship types in detail and have concluded that the important factor is the density of the mud in suspension and have established that a density of $1,200\text{kg/m}^3$ can safely be navigated by all vessels. However, although the nautical bottom can be established by density its effectiveness as a safe critical parameter is dependent upon the ability to continuously monitor the density of a mud layer and establish a detailed knowledge of ship behaviour in muddy areas. This has been undertaken by physical tank testing, mathematical modelling, simulation and live trials mainly involving the pilots in Zeebrugge. The following information contains extracts from papers published on the internet by many different establishments but in particular:

Marc Vantorre: Ghent University, IR04 – Division of Maritime Technology

Michael J Briggs: Coastal and Hydraulics Laboratory, U.S. Army Engineer Research and Development Center

Klemens Uliczka: Federal Waterways Engineering and Research Institute, Hamburg

Pierre Debaillon: Centre d'Etudes Techniques Maritimes Et Fluviales

DEFINITION OF DEPTHS IN MUDDY AREAS

HYDRODYNAMIC DEPTH:

The exact level of the interface between moving muddy water and stationary mud.

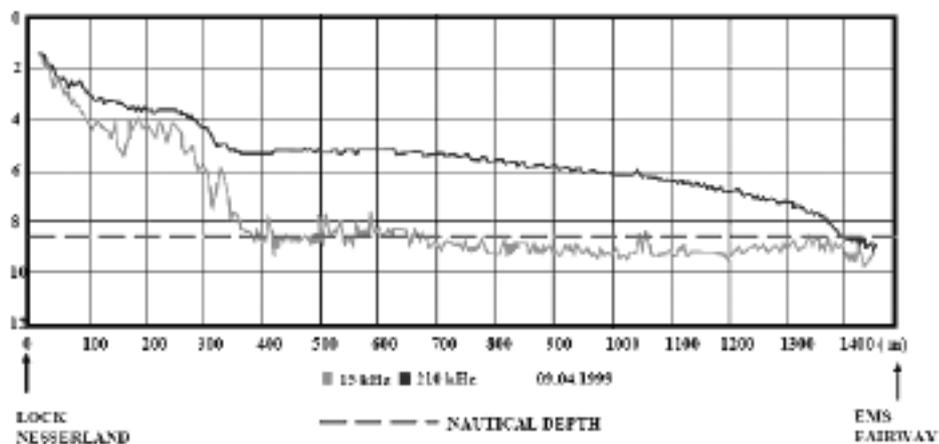
PARAMETRIC DEPTH

The bed level determined by some material parameters e.g. target strength, shear strength etc.

OPERATIONAL DEPTH

The depth of a particular parameter relevant to some specific operation e.g. navigation.

In areas where the mud bed is firm these 3 definitions will coincide.



COMPARISON OF NORMAL SOUNDING DEPTH AND NAUTICAL BOTTOM

As an example of the difference that using the nautical bottom as opposed to normal sounding bottom can make, the diagram above shows real data from surveys on the EMS using different sounding frequencies, with the 210 kHz being the standard for sea water and the 15 kHz to penetrate through to the 1200 interface. The results reveal an additional navigable depth of over two metres in places.

Muddy Navigation Areas

The presence of a fluid mud layer on the bottom of a channel has a significant influence on ship behaviour in general, and sinkage and trim in particular. Two effects play a dominant role:

- The pressure field around the moving hull causes undulations of the water mud interface that modify the distribution of vertical forces over the length of the ship and, therefore, sinkage and trim.
- If the ship's keel penetrates into the mud layer, the hydrostatic (buoyancy) force acting on the submerged hull increases due to the higher density of the mud.

The interface deformation is a function of many parameters, such as ship speed, layer thickness, mud density and rheology, and the initial UKC with respect to the mud-water interface.

Contact between the ship's keel and the mud layer depends mainly on the UKC, but is also influenced by the interface undulations and the ship's sinkage. As a result, both effects are interrelated. Most of the information available on this subject is based on experimental research using models.

Experimental research

One of the major problems for research into mud layer navigation is producing an accurate model for the mud behaviour. Mud behaves in a complex manner and its characteristics vary with the depth. The model tests that have been carried out

mostly use an artificial mud layer because it is difficult or even impossible to repeat several tests under the same natural mud conditions.

Additional problems with model tests are the scaling effects of the simulated mud with respect to the model and consequently for the port of Zeebrugge a new research program was initiated, consisting of captive manoeuvring tests in Flanders Hydraulics Research shallow water tank using both fast- and real-time simulation runs. The mud layer was simulated by means of a mixture of chlorinated paraffins and petroleum. Most runs were carried out with a model of a 6000 TEU container as this one was the standard type of vessel for the harbour of Zeebrugge at that time. Mud layer thicknesses were varied from 0.75m to 3.00m and the UKC references to the water-mud interface were varied between -12.2% and +21% of draught.

Mud-water Interface Undulations

A ship navigating above fluid mud layers will cause vertical interface motions (internal waves and undulations) that are influenced by the ship's forward speed as revealed in the diagram below right:

- At very low speed the interface remains practically undisturbed.
- At intermediate speed an interface sinkage is observed under the ship's bow if the fluid mud layer is relatively thick. At a certain time, an internal hydraulic jump, perpendicular to the ship's longitudinal axis, is observed. The front of this internal jump moves aft with increasing speed.
- At higher speeds, the internal or interface jump occurs behind the stern

The sinkage for a ship sailing in a muddy bottom condition is decreased relative to the condition in which the mud layer is replaced by a solid bottom. This is because the ship can "feel" the hard bottom more than the softer, less dense, mud layer. If the mud layer is replaced by water (normal conditions without a mud layer) however, the sinkage would decrease relative to the condition with the mud layer. However, this does not take into account the effect of

extra buoyancy (i.e., mud is denser than water), but this is only important in very dense mud layers and/or important penetration. In general, the influence on trim is more important than sinkage since the mud layer causes the ship to be dynamically trimmed by the stern over its complete speed range. Thus, the effect of mud layers on average sinkage is only marginal as trim is much more important.

Mathematical modelling

Obviously the results of model tank tests could not be immediately transferred to real ships for trials so the results needed to be transferred for use in a simulator which meant that mathematical models needed to be created. There were many complexities involved in this process and for those of you interested in this aspect of mud navigation full details can be found in the papers within the links at the end of this feature.

ZEEBRUGGE: REAL-TIME SIMULATION RUNS

The final purpose of the research program involved ascertaining the actual operational limits for mud navigation by means of live trials. As the pilots play a central role in the navigation to and from Zeebrugge, the input of their experience and assessment in this project was required. For a selection of bottom conditions, a real-time simulation programme was organised with Zeebrugge pilots at the full mission bridge simulator of Flanders Hydraulics Research, Antwerp. All runs were carried out with a container ship (length over all: 300m; beam: 40.24m; draft: 13.5m) calling at and departing from the harbour of Zeebrugge.

The simulation programme was composed paying attention to several aspects:

- **Validation of the mathematical models:** Would the behaviour of the ship assessed be realistic during the simulation runs? In order to evaluate this aspect, simulations were carried out above a solid bottom and above muddy bottoms with reduced under keel clearance, according to existing or realistic situations.
- **Determination of the limits of the controllability:** According to the PIANC definition, contact between the nautical bottom and the ship's keel causes unacceptable effects on controllability and manoeuvrability. In order to make an assessment in these matters, a series of simulation runs was carried out during which contact occurred between the ship's keel and mud layers with higher density and viscosity.
- **Evaluation of the navigability of mud layers:** If it is decided to determine the nautical bottom by means of a density level higher than the present 1.15 t/m, the ship's keel will possibly penetrate into mud layers with reduced density and viscosity. The ship's behaviour in such conditions was assessed by a series of simulation runs.

In total, 63 runs were carried out by 15 pilots during 8 days.

These manoeuvres are typical for large container ships calling at Zeebrugge, so that a feedback to the pilots' experience was guaranteed; moreover, a broad range of hydrodynamic conditions (speeds ahead/astern, propeller rpm ahead/astern, drift angles, yaw rates ...) was covered during the simulation runs. During each single run, the bottom characteristics were assumed to be constant over the entire harbour area.

The access channel to the harbour, the Pas van het Zand, is characterised by strong cross tides beyond the breakwaters and at low water the rate can be up to 2.5 knots.

As these currents greatly affect the shipping traffic arriving and departing from Zeebrugge, realistic current patterns were introduced into the simulation environment.

All manoeuvres were carried out in frequently occurring, moderate wind conditions (SW 4). During some runs, more severe winds were applied. Tug assistance was provided by two tugs of 45 ton bollard pull each; during some runs the available tug power was increased.

Qualitative evaluation of the simulation runs

All pilots were requested to complete a questionnaire just after the simulation run; this resulted in very important assessment of the manoeuvres. The majority of the pilots considered the simulation of the ship's behaviour and tug assistance to be "good" to "very good".

After each run, the pilot was asked whether it would be advisable to carry out the manoeuvre in reality. Based on this assessment, the conditions were classified as "acceptable", "marginal" and "unacceptable"

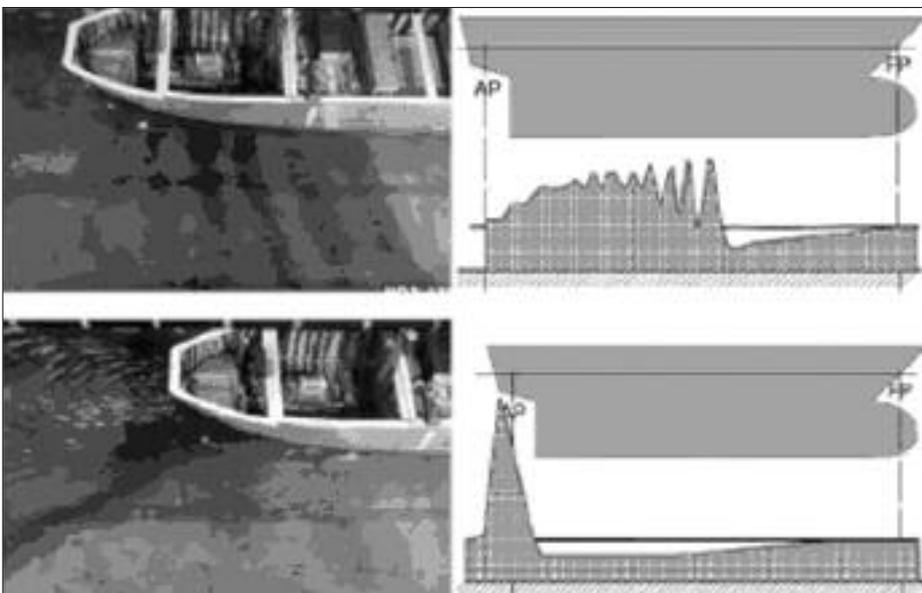
Analysis based evaluation of the simulation runs

Taking account of the comments of the pilots on the simulated manoeuvres, it was clear that following criteria should be considered for assessing the feasibility of the concept:

- **Speed:** Is a departing ship able to reach a speed that is sufficient to compensate for the cross current acting beyond the breakwaters?
- **Controllability by own means:** Can a departing ship obtain a straight course without extreme use of rudder and propeller?
- **Manoeuvrability with tug assistance:** Are the ship's rudder, propeller and the tug assistance sufficient to perform the manoeuvres safely within acceptable time limits?

Based on the pilots' qualitative assessment, limits were determined to quantify these criteria:

- **Speed:** in order to keep within the fairway, a departing ship's speed should be at least 8 knots, and preferably 10 knots. These values were selected as limits for unacceptable, marginal and acceptable conditions.
- **For a departing ship's controllability by own devices,** the standard deviation of the rate of turn was considered to be the best indicator. For the different bottom conditions, this value is displayed as a function of the water depth to draft ratio. Taking account of the pilots' evaluation, values of 5 and 6 deg/min were selected as critical limits.



Model tests showing conditions b) & c)

- **In order to evaluate the ship's manoeuvrability with tug assistance in a quantitative way**, the *impulse of steering force* was introduced, being the time integral of the sum of the lateral rudder and tug induced forces. The values of these impulses were calculated for each sub trajectory and compared to the pilots' evaluation of the adequacy of tug assistance. In this way, it was not only possible to quantify the third criterion but extrapolations to assistance by more or less powerful tugs could be made as well.

CONCLUSIONS

As a result of the analysis of the real-time simulation runs with a small negative under keel clearance it can be concluded that contact with mud layers of a density of 1,200kg/m³ or more should be avoided, even if sufficient tug assistance is available.

However using a limit of 1,200kg/m³ was considered safe for navigation provided that tugs were available as per the following table:

- * 0% under keel clearance using 2 tugs of up to 30 ton bollard pull;
- * -7% under keel clearance if 2 x 45 ton bollard pull tugs were available;
- * -12% under keel clearance if 2 x 60 ton

bollard pull tugs were available.

These conclusions are only valid in moderate wind conditions for 6000 TEU container ships. However the methodology can be applied to any vessel or harbour. The new critical limit led to the admittance of deeper drafted vessels and an optimization of the maintenance dredging works in the harbour Zeebrugge, without jeopardizing the safety of navigation.

However, a warning was made that pilots should always be aware of the level of the water-mud interface, which should be indicated on the nautical charts as well, for several reasons:

- If the ship's keel penetrates by more than 10% of her draft into low density mud layers, this may result in unpredictable effects.
- Small positive under keel clearances relative to the mud-water interface may result into a modification of the ship's behaviour and controllability.
- A major conclusion of the simulation trials was the availability of tug assistance since if insufficient tug power is available, contact with the mud layer should be avoided and the mud / water interface should be used as the nautical bottom. Conversely, if more powerful tugs are available then a larger negative

UKC could be considered feasible. In the near future, the tracks, controls and tug assistance of deep-drafted containers ships arriving at and departing from Zeebrugge at low tide will be recorded by the pilots in order to provide a feedback to the simulation study. After an evaluation phase, it will be decided whether the new criteria for the determination of the nautical bottom will be applied in practice.

Other considerations

Although the above analysis reveals that mud navigation is feasible, such navigation can result in other physical effects on the ship. Some of my colleagues who served on freight ferries running regularly to Zeebrugge have informed me that navigating the mud layer doesn't just keep the hull clear of growth but also removes the paint and dry docking reveals a clean metal hull and the propellers also become highly polished. The other obvious problem is with engine cooling systems which are not designed for cooling by muddy water.

Full details of the research project can be found via the following weblink:

<http://watlab.lin.vlaanderen.be/nautische/index.htm>

JCB

Another definition of "Nautical Bottom"!

At last the chance to add some glamour to the magazine! One of the wonders of the Internet is the ability to find papers on specialist topics using search engines. In addition to the serious papers used for this article my search for "nautical bottom" returned the following delightful picture



which I felt was worth sharing. Enjoy!

If you are interested this "nautical Bottom" bikini is available from Bubbles Boutique,

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SQUAT UPDATE; WHAT SQUAT?

Following my feature on squat in the last issue I recently piloted a dredger which was fitted with extremely accurate draft meters and I was therefore able to monitor the fore, aft and mean drafts throughout the passage. With a speed of 13.5 kts the master advised me that the vessel trimmed by the head at speed and the deep water draft would be 8.5m forward. The passage involved passing over a bank which would give a minimum under keel clearance (UKC) of around 2.5m at that draft. As a regular

trader to the port the Captain advised me that the speed would only need to be reduced to around 12 kts over the shoal to prevent the pitch overload alarm from triggering. This passage therefore provided an ideal opportunity to monitor the squat passing over the shoal. As predicted once up to full speed the draft was recorded as 8.5m fwd and 7.9 aft and the mean draft displayed as 8.2m thus confirming the accuracy of the F&A sensors. Approaching the shallows the speed was reduced to 12 kts (through the water) and once passing over the shoal with the depth registering at 2.4m it was interesting to note that the forward draft had increased to 8.9m thus

indicating a 0.4m squat. However, the aft draft had decreased to 7.5 and thus the mean draft was still recording at 8.2m. The vessel had trimmed by the head but no squat was present. This class of vessel only has a freeboard of about 60cm at this loaded draft and the deck was still above water (*see photo*) so the theoretical squat of around 1.5m at 12 kts is evidently incorrect. Having recently been dredged, the sea bottom is known to be solid so there is no mud layer effect and therefore, although totally unscientific, this passage once again tends to confirm that the existing squat tables are totally inaccurate and urgently need to be reviewed.

JCB



Ship speed 10kts. According to squat tables the deck should be submerged! Photo JCB

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TYNE PILOTS – THE END OF AN ERA

On 31st March 2008, an era in the history of the river Tyne ended with the retirement of John Marshall and Alan Purvis, the last traditional Tyne Pilot family pilots.

Tyne Pilots Limited also ceased to exist with pilotage being transferred to the pilots of the Port of Tyne Authority.

It is impossible to determine when pilotage on the Tyne began but it was a strategic port in Roman times and it is recorded that they engaged Tigris watermen to work their ships on the river – in essence, pilots!

The formal establishment of organized pilotage however is generally credited to Trinity House and it was incorporated in a Royal Charter granted by Henry VIII on 5th October 1536. Initially, the profession was exclusive to Brethren of Trinity House, but in the mid-1600's this was amended and the pilots were recruited from the local seagoing community.

The custom of taking only pilots' sons and relatives as apprentices was recognised by Trinity House, who by Resolution actually required it as a condition of being licensed as a pilot, thus establishing a tradition that would serve for hundreds of years. In 1865, government legislation transferred the licensing and administration of the pilots from Trinity House to the Tyne Pilotage Commission, but the tradition of pilot families continued.

In 1789, the first purpose-built lifeboat was built and for the next one hundred and

fifty years, the pilots crewed these lifeboats and saved many hundreds of lives. This was not without sacrifice however, as in 1849 twenty pilots were tragically lost when the lifeboat *Providence* capsized during a rescue. The sea was not the only enemy, as on the last day of 1916, the pilot cutter *Protector* was mined and sunk with the loss of all nineteen on board.

It was into this heritage that John Marshall was born on 31st December 1946, and Alan Purvis on 16th March 1948. Both families lived in Trajan Street in South Shields and when aged 16 both began four-year Apprenticeships with Tyne Pilotage Authority. At that time, there were some ninety pilots on the Tyne, and the river was still a world centre for shipbuilding and repairing and the export of coal. This apprenticeship was followed by service in the Merchant Navy; John with Silver Line, and Alan with Common Brothers to gain their Master's Certificates and thus qualify for entry into the Pilot Service.

Returning to the Tyne, John was licensed on 7th May 1976 and Alan on 6th May 1977 and they served for three years as junior pilots before being licensed as First Class.

The national miners' strike of 1984 had a profound effect on trade in the Port and its self-employed pilots and John and Alan took overseas pilotage appointments in the Arabian Gulf.

In 1988, government legislation

transferred responsibility for pilotage from the Tyne Pilotage Authority to the Port of Tyne Authority. Twelve of the existing pilots formed the co-operative of Tyne Pilots Limited contracted with the Authority to provide the pilotage service.

The Pilot Apprenticeship scheme was abolished in 1968 and pilots were subsequently recruited from the ranks of seagoing officers. In 2001 the Port of Tyne Authority embarked upon a regime to directly employ its future pilots, and Tyne Pilots Limited were contracted to train and examine new pilots for the Authority, passing on the wealth of knowledge and experience acquired over many generations.

The end of Tyne Pilots Limited also sees the retirement of Pilot Master and former pilot Edward Cowell. Eddie was born on 11th March 1941, also into a pilot family, and upon completion of his pilot apprenticeship, embarked upon a seagoing career with Common Brothers, Stephenson Clarke, North Thames Gas Board, and Gibson's of Leith to gain his Certificates of Competency prior to becoming a licensed pilot in 1970. Eddie retired as a pilot in 1998, having served as Chairman of Tyne Pilots Limited from its creation in 1988 until his retirement but in 1999 he was engaged in an administrative role within the port and his knowledge and advice has been greatly valued by Agents, Port staff and junior pilots alike.

During their careers John and Alan witnessed dramatic changes to the Tyne and its trade. Cars, passengers, and **the import of coal** have replaced shipbuilding, ship-repair and the export of coal! Ships are larger; tugs are fewer but more powerful. Technology and commercial pressures have combined to expand operational parameters, but it is experience that ultimately dictates the limits. They have had the pleasure of piloting, "almost anything that floats"; from fishing boats to super-tankers, car-carriers, bulk carriers, cruise ships, aircraft carriers, oil rigs, barges, floating dry-docks, sailing ships, Royal Yachts, and Crane barges carrying Millennium Bridges!

Together with their former colleagues, John and Alan consider themselves privileged to have followed a career that they enjoyed and to have been part of an historical era. Even today, pilotage is still as much an art as a science and although all pilots occasionally doubt their sanity when climbing up the side of a bulk carrier in a northerly gale, "parking ships" is both challenging and immensely satisfying.

To generations of Tyne Pilots, pilotage has not just been a profession it has been more complex than that! It's been their heritage, their psyche – it's what they were!

JD Marshall

TECHNICAL & TRAINING

Since our last report to *The Pilot* we have learnt that the bid for funding for the Azipilot Project has been accepted by the EU and the 'i's are now being dotted and the 't's crossed before work on the project gets under weigh. Ian Simpson from Harwich has volunteered to join me in managing the UKMPA's contribution. Ian brings his experience as Simulator Pilot and Marine Advisor at HR Wallingford to the project. The work on POADSS continues with Lisbon Pilots, who have attended approved AIS and ECDIS courses, undergoing two days training with Rotterdam Pilots in the use of Portable Pilotage Units on the 4th/5th March. This was then followed by the first trial of the POADSS equipment in Lisbon on the 17th March ahead of the full scale trials now set for Lisbon in October.

The issue of National Occupational Standards and a National Qualification for Pilots continues and at the last meeting of the MCA Working Group in December, in

the absence of any progress on this issue relevant to Pilots, we put forward the ETCS document as being the training model that should be adopted. As this Working Group meets twice a year perhaps it is easy to see why progress is so slow. Peter Aylott from the Nautical Institute (NI) was invited to our meeting in November and talked through with us some ideas for the NI Pilotage Diploma while seeking the support of the UKMPA in achieving industry recognition. It is hoped to have a draft syllabus to review in the near future.

Since our last meeting a Pilot has contacted us about the use of cable ties to secure the wedge either side of a pilot ladder rung. The ISO require the wedge to be held in place by rope seizing, although alternatives can be used. It is perhaps doubtful that a cable tie constitutes a suitable alternative. IMPA have agreed to take the matter up with ship owners but suggest that it may be an issue for Port State Control.

The minutes of the T&T Meetings are available on the UKMPA web site.

Chairman T&T Committee
Gareth Rees [dgc.rees@talktalk.net]

PENSION NEWS

THE SECRETARIAT

The month of March saw changes in the Secretariat's staff with Thursday the 20th being Richard Wiscombe's last day with the PNPf before starting his new job up in London. On Monday the 10th Loretta Eccleston joined the Secretariat as Richard's replacement. Loretta joins us from the Virgin Atlantic Pension Scheme where she was the Senior Administrative Officer.

Accounts 2007

The 2007 annual accounts are currently being audited and should be finalised by the Trustees at their May quarterly meeting. It is hoped that printed copies of these accounts will be sent out to pilots and pensioners by the end of June.

Member Nomination Forms

It has recently been reported in the pensions press that it is a common problem that nomination forms are not updated to take account of changes in a member's circumstances. This can delay the payment of lump sum death benefits. So now might be an opportune time for me to remind members to ensure that their nomination forms, aka "Expression of Wish" forms are up-to-date.

2007 Triennial Valuation

The 2007 triennial valuation is well and truly underway, with the first meeting to discuss the data in April. This valuation sees the Trustees setting the economic and mortality assumptions.

Expectation of life is now one of the most important assumptions in the valuation of pension liabilities. It will be crucial for the trustees to get it right as over recent years there has been evidence of a rapid increase in longevity in the UK population.

The Regulator recommends that good

practice requires assumptions to be evidence based and there has been much talk in the press about the "cohort effect" (ie an effect related to the year of birth). Trustees beware, where valuations use mortality assumptions that appear to the Pensions Regulator to be weaker than the long cohort (ie assumes additional improvements in longevity until 2040) these will attract further scrutiny from his office.

Longevity and mortality assumptions have all made the job of the trustees increasingly difficult and should make for some interesting discussions around the table.

BUDGET 12 MARCH 2008

The 2008/09 tax year will see significant changes to the way in which income tax and National Insurance (NI) is calculated. The upper limit for NI will jump from £34,840 to £40,040; the 10% income tax band will be abolished and the basic rate of income tax falls from 22% to 20%. Most employees will save on their combined tax and NI bill in the new tax year, but anyone earning less than £15,400 is going to pay more in tax and NI during 08/09. Tax credits may be available to offset the effect of this.

The biggest winners are those earning around the £35,000 mark, they will see a combined saving of about £375. Anyone earning more than £35,100 will pay more NI but this should be offset by savings in income tax.

Personal Allowances

The changes in personal allowances include:

	2008/09	2007/08
Aged 65 or under	£5435	£5225
Aged 65-74	£9030	£7550
Aged 75 or over	£9180	£7690
Married couples (age 75 and over)	£6625	£6365
Married couples (aged less than 75 and born before 06.04.35)	£6535	£6285
Married couples - minimum	£2540	£2440
Blind person's allowance	£1800	£1730
Inheritance Tax	£321,000	

The measures in the budget impacting on pensions include:

- Changes to the Lifetime and annual allowances
- Changes to authorised payments
- Easements to the trivial commutation rules.

ANTI-MONEY LAUNDERING REQUIREMENTS

As if being a trustee was not complex enough, the Government is bringing in new anti-money laundering requirements that could well apply to trustees who are paid for acting in that role. As the requirements are at best opaque, clarification is being sought by legal firms, but it seems clear that unpaid trustees will not be affected.

NEWS IN BRIEF

1908 to 2008

2008 sees 100 years of the State Pension which all started with Lloyd George's 1908 Old Age Pensions Act. In 1901 life expectancy for men and women was 45 and 49 years respectively but a State Pension Age of 65 was still proposed, but eventually set at 70 to reduce costs. Many questions raised by the 1908 Act remain unchanged, however life expectancy has changed dramatically.

National Money Advice Service

In his final report on generic financial advice Otto Thoresen calls for a national money guidance service. This service would provide information on budgeting, saving, borrowing, protection, retirement planning, tax and welfare benefits and jargon busting, but would stop short of recommending specific products.

Gurkhas Protest

Hundreds of retired Gurkhas protested outside Parliament to demand pensions equality with British soldiers. At present Gurkhas who retire after 1997 receive a pension equivalent to the rest of the British Army. However those that retired prior to that date receive one-sixth of the amount received by a UK soldier, which they believe is discrimination.

Debbie Marten
Debbie@pnpf.co.uk

Retirements

November 2007 to
January 2008

DJ Chamberlain	Tees	Nov
S Gilbert	SE Wales	Dec
CI Grant	Whitehaven	May
A Lindfield	Liverpool	Dec
BP Littler	Liverpool	Dec
JA Pauling	Liverpool	Dec
DI Shennan	Portsmouth	Jan
MR Talbot	SE Wales	Dec

Pensioners Deceased

November 2007 to
January 2007

B Foreman	Kings Lynn
K Grant	Southampton
PG Henneker	Cinque Ports
JP Muir	Dover
R Oliver	Harwich
GS Perry	Liverpool
AH Thurgood	London West

To be a Pilot: Career or Destiny - The Story Behind The Painting

Many pilots are descended from shipping families but all too often the records are lost over even a couple of generations. Retired Humber pilot David Raddings came across the following record of his family's ship owning past and tragedy whilst sorting out the possessions of his father (also a Humber pilot) who died in 2000.

At an early age I knew I had a maritime heritage, a Chappell painting of the ketch *Charlotte Kilner* surging through rough green seas and white surf off the Eddystone Lighthouse had hung in our lounge as long as I can remember. The scene is set by a figure stood at the helm, an Ensign flying high and signal flags WKSQ beneath with sails shortened in, ready to make the most of what seems to be of an impending squall, the man is pushing the ship hard in an effort to make a tide at a nearby port or haven. That impression is obviously designed to give any Captain or Owner that extra sense of pride at a time in history when photography could not produce anything of the like. The name on this particular painting, Capt. John William Raddings, has a very special significance.

Many years later my Grandmother would nostalgically tell us of the days when she used to take her children and join her husband (Jack) to sail to the Channel Islands or other places around the coast. The affection she held for those memories were never far from her mind.

Her son, John, would have been six years old in the summer of 1916 and was already being groomed for his future standing between his father and the huge mahogany wheel, to keep the ship on course, with the seasoned eye of his father looking aloft, making sure the wind was kept taut in the sails for best results.

Nearly 40 years later I would have a similar experience when occasionally I had the privilege to be with my father (1910-2000) as he took ships in and out of the docks in Hull.

Learning the feel for rope, knots and splices, the Turks head, rope mats and



JW Raddings (leaning on the rail to the right) on board the *Charlotte Kilner*



Charlotte Kilner

eventually bell lanyards by the time I became a teenager, was also part of that grooming. Ships, his life's work continued until he was well over seventy.

Until one day when it was his time to say farewell and those with the experience of emptying the family home know full well how hard it is. Whilst undertaking the difficult sorting through my father's belongings I came across a rather innocuous grubby old cardboard box which contained a rather tattered brown old school exercise book where my father had written in his practically indecipherable writing the description and workings of a ketch named *John* owned or chartered by The Kilners.

The Kilners were a glass bottle making company in the 1800s that needed supplies of silver sand which was brought to the factory near Doncaster from Holland in the ketch, Captained by my great grandfather, Benjamin Lake Raddings.

However this was not all and unfolding a large well creased parchment document I realised this was the Official Registration document for the *Charlotte Kilner* and I then realised that the precious contents of family history had come to me as an inheritance, a story that had to be recorded and stored.

In 1882 the *John* was replaced when the Kilner family decided to have a vessel built by a Mr Outwin of Goole, the ship being named *Charlotte Kilner*, a 75 ft wooden built vessel of 79.1ton. Records reveal that my Great Grandfather owned 8 of the 64 shares and the Kilner family owned the rest.

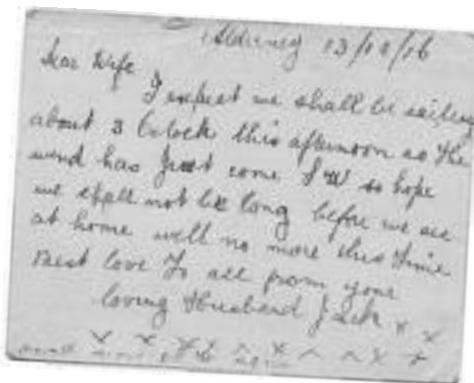
My Grandfather (John W) had served as deck hand and able seaman with his father since the age of 14 and by this time was aged 21 and had become the mate.

Sailing and making a living was a hard business and in 1907, at the age of 53, my Great Grandfather was ready to retire and sold the business to my Grandfather John William (known as Jack to his family) for the price of £450.

My father (also John) wrote the following account:

When the Hull Fishing Industry developed to the extent of surplus, cod from the market was bought and salted by a firm called Waltons on the west end of the dock (St Andrews Dock, Hull), known as the "Cod Farm". The Charlotte Kilner was the first ship loaded with a cargo of Salt Wet Cod and was chartered by Charles H Lowery to take it from Hull to Exeter. I don't know many subsequent salt fish cargoes she carried but the many and varied cargoes she did carry included: Scottish seed potatoes, grain, stone, cement, coal, china clay, scrap iron, and of course silver sand.

Trading on board *Charlotte Kilner* continued through The Great War, WW1, and in December 1916 having loaded stone from Alderney to Grimsby, my grandfather wrote a card dated 13/12/1916:



Dear Wife I expect we shall be sailing about 3 o'clock this afternoon as the wind has just come SW so hope we shall not be long before we are home well no more this time best love to all from your loving husband Jack
xxxxxxxxxxxx
wind now NW again

Six days later, 19th December, they had completed what must have been a quick passage to the Humber where they

anchored off Grimsby awaiting a tug to tow her up river.

As it was the First World War the Admiralty would not allow a Captain to sail through The Boom and up river alone. The next day she had a tug alongside waiting for her to get under way but no anchor light was allowed under the Admiralty Wartime blackout regulations. In the dark, the minesweeper *Valmont* steamed in and collided with the *Charlotte Kilner*. The stone cargo she was carrying resulted in the ship sinking in an instant. Fortunately the 4-man crew were saved by the tug.

Following this accident the Admiralty reviewed lighting arrangements for craft the result being that the displaying of riding lights for vessels at anchor was reinstated. With the *Charlotte Kilner* declared a "total loss" a decision was made to continue trading and so in the New Year the hunt for another vessel was on.

The ketch *Princess* owned by Rowbothams, who at the time had its ships chartered by Appointment to the War Office was available for a cost of around £1000 and upon her return from Guernsey, would be available immediately.

By the end of January 1917, not able to wait for the salvage insurance on the *Kilner* my Grandfather purchased the vessel which he had been assured was on passage to Grimsby.

When *Princess* still hadn't arrived in Hull for hand-over by the middle of February his letters began to show signs of agitation and stress, because he had already begun fixing cargoes.

More unwelcome news arrived at this time in a letter from his solicitor informing him the Admiralty had "repudiated liability" in the matter of the sinking of the *Charlotte Kilner vs. Valmont*.

By the end of February the *Princess* was still below the horizon as it were, and having fixed a cargo with the Alderney Gas Co. he gave this rather embarrassed reply to a letter of: enquiry from them

Feb 27th 1917

The Alderney Gas Co

Dear Sirs

Yours of the 24th to hand this morning and you can rely on me to push matters all I can at this end on arrival of Princess but she hasn't got here up to writing this letter. I can understand The Position you are in and I am in another mans hands at present until he gets here, then it will be different I don't think I should have been all this time but hope soon to be able to wire you Kindest Regards

Yours Faithfully JW Raddings

PS The Freight ought to be a little more The way things are The ins (insurance?) is so High but will see about that later

On 28th February Rowbothams informed him *Princess* had passed Yarmouth but

the *Princess* did not arrive on the berth to discharge until 10th March, where he then discovered to his dismay that the Captain aboard had made a prior cargo charter to someone in Guernsey and he was therefore bound by agreement to complete. With this knowledge on 11th March he wrote to Alderney Gas informing them of yet another unfortunate delay.

If that was not enough, other problems arose in that changing over insurance from Rowbothams insurers proved difficult and a minor collision that had occurred whilst under the ownership of Rowbothams between *Princess* and another vessel *Mary Annie* added to the complications and frustration.

Confirmation of insurance finally arrived on 21st March and he set sail on Thursday 22nd March 1917 for Guernsey knowing that on arrival he would be able to find time to visit Alderney Gas Co. to express his sincere apologies for the unforeseen problems and trouble.

At the beginning of April my Grandmother received the following devastating news:

CUSTOMS AND EXCISE.

MEMORANDUM

Goole 1st April 1917

From Receiver of Wreck To Mr J W Raddings

Sir. "*Princess*"

A small boat has been picked up near the Cockle Light Ship, which apparently belongs to the above.

Application for its delivery should be made to the Receiver of Wreck at Yarmouth.

F. Mon.... (illegible).

Of course the Memorandum was written to the Owner, but with Jack aboard, Elizabeth, obviously shocked with disbelief and confusion, wrote to inform and confirm the news with their solicitors:

April 3rd 1917 L C Sage Secretary

Dear Sir

I received a letter from the "Receiver of Wreck" Custom House Great Yarmouth" yesterday the 2nd inst saying that a boat marked "Princess of Goole" had been picked up at sea near the Cockle Lightship on the 27th March and taken into Yarmouth. I am naturally very anxious as to the whereabouts of the Princess as I have heard nothing from my husband since he sailed, which was the 22nd March, I thought it best to advise you in these matters.

Yours truly Mrs E Raddings

Sailing was very precarious in those days; the 'jolly boat' was the only thing found from the *Princess*, all aboard had perished. Whether lightning had struck a second time, in the form of a minesweeper or other vessel

colliding with her in fog etc., or blown up by a mine, no trace was ever found. The weather does not seem to have been a factor since thanks to the Met Office archives, in 2001 I was able to ascertain the conditions. It was cold with light easterlies at first backing northerly force 5 by the 29th March 1917.

Even after all these troubles my father still had a keen interest in going to sea. His mother however, more cautiously, steered him into the Humber Pilot Service thinking her son would be nearer home and she possibly had a naive notion that Pilotage was likely to be a less dangerous occupation. After completing his apprenticeship (6yrs) at the age of 21 he still had to serve time as a midshipman in a sailing vessel and so in 1931 served in one of the very last merchant sailing vessels available, a topsail schooner named *Jane Banks* of Fowey. At this time, contrary to the Rule of the Road Shipping Regulations, "Sail was giving way to Steam"!

It may be thought that by 1931 circumstances had improved aboard Sailing Vessels? A vivid memory of my father's was of a ferocious night with all hands on deck (probably only 4 men) desperately shortening sail to save them and the ship from destruction. This task completed, the desperation was then focused upon saving themselves. No radio, no generator, no life preservation equipment, only the ships hand bilge pump and a 'jolly boat'.

"All hands to the pumps" is a well-known phrase and until the storm abated it was the only thing left for them to do as the ship floundered head to wind in the huge seas. God was on their side that night as the ship eventually made for a safe haven and port. The reward for saving themselves from oblivion though would be nothing other than the usual, discharging the vessel by hand, with pickaxe, shovel and brush. Certainly not the popping of champagne bottles on arrival as is the case for the celebrating yachtsmen today!

We all accept sailing has a certain mystique about it and still remains the perception for the romantic no matter which era, but like most hard manual-work of those times, it was also tough if not rather grim.

It is ironic however that in 1917 there were two parties in Guernsey and Alderney both desperate for a delivery of coal who could not wait, but in the end there was no alternative.

The postcard from Alderney that Jack wrote on the 13th December 1916 was very significant, in that it was the last declaration of love and affection he ever wrote to his family. Certainly for Elizabeth it must have been a most cherished possession, so much so, chafed and ragged at the edges by so much handling, it has endured over 90yrs.

David Raddings

CIVIL AND CRIMINAL LIABILITIES IN UK PILOTAGE

Since I joined the pilotage service I have been in possession of a copy of the 1987 Pilotage Act and have occasionally attempted to examine the relevance of the clauses to a certain situation but not having a legal mind I fail to comprehend the "legalese"! The following is an edited version of an opinion on liabilities written by **Barrie Youde** for EMPA which provides important clarifications of civil and criminal liabilities of UK pilots. Ed.

Civil liability may be described as the liability of a civil wrongdoer (or *tortfeasor*) to pay a sum of money to any person who has suffered loss or damage in consequence of the civil wrong or tort which has been done. Criminal liability is the liability of a criminal wrongdoer to pay a penalty to the public purse (a *fine*) or to serve a term of imprisonment in consequence of his crime. Save for the removal of a pilot's professional qualification (*ie* his authorisation or licence) there are no other penalties which apply in pilotage. The law of pilotage in the United Kingdom is governed almost entirely by statute law, namely the Pilotage Act of 1987 – and by its interpretation in the Courts.

CIVIL LIABILITY

The leading modern case in pilotage is *Esso Petroleum v Hall Russell* (The *Esso Bernicia*, 1989). The case was heard in the House of Lords and arose during the currency of the 1913 Pilotage Act. A vessel under pilotage caused damage to a berth when the head-tug lost all power. The pilot of the vessel was unique in that he was directly employed by his Competent Harbour Authority (CHA) at a time when all other UK pilots were self-employed. The owner of the damaged berth claimed against the shipowner; and the shipowner in turn claimed liability vicariously against the CHA (in its capacity as the employer of the pilot) for the alleged negligence of the pilot, in appreciation of the obvious fact that the recovery of substantial damages against the (relatively wealthy) CHA was far more likely than the recovery of financial damages against the (relatively impecunious) pilot. The House of Lords conducted an extensive review of relevant pilotage law and found no liability against the Harbour Authority on the grounds that a pilot "*is an independent professional man who navigates the ship as a principal and not as a servant of his general employer.*"

Following the introduction of the 1987 Pilotage Act, another challenge was made by a shipowner against a CHA in 1993 in respect of the negligence of an employed pilot. When under pilotage, the gas tanker *Cavendish* was in allision with a structure and suffered damage. The legal challenge was made in the Admiralty Court but was dismissed when the Court ruled that the provisions of the 1987 Act had not altered the relevant position as stated under the terms of the 1913 Act. Referring to the *Esso Bernicia* case, the *Cavendish* Judge observed (i) "No man can serve two masters"; and (ii) "the purport and effect of Section 2 [of the 1987 Act] was not to impose duties on

CHAs to pilot ships but to require them to supply properly authorised pilots for ships."

It has therefore been established that when a pilot is navigating a ship, even if he is engaged by a contract of employment to his CHA, the CHA is not liable for any negligence of the pilot; for the simple reason that a pilot when navigating, "*is an independent professional*" who cannot serve two masters at the same time. The law which governs this is Section 16 of the 1987 Act which provides that:-

"The fact that a ship is being navigated in an area and in circumstances in which pilotage is compulsory for it shall not affect any liability of the owner or master of the ship for any loss or damage caused by the ship or by the manner in which it is navigated."

This establishes that, for all purposes connected with navigation, the pilot is the servant of the ship-owner and not the servant of the CHA and it is therefore extremely difficult to establish civil liability against a pilot in matters of civil negligence. A further particular difficulty for those who might wish to seek to recover civil damages from a pilot is Section 22(1) of the 1987 Act which provides that:

"The liability of an authorised pilot for any loss or damage caused by any act or omission of his while acting as such a pilot shall not exceed £1,000 and the amount of the pilotage charges in respect of the voyage during which the liability arose."

In commercial terms, £1,000 is not a sum which would be worth a legal fight.

The combined effect of Section 16 of the 1987 Act and the two leading cases produce the result that, for a professional pilot, a contract of employment with a CHA is superfluous and creates nothing other than a rod for his own back.

CRIMINAL LIABILITY

Fortunately it is rare for criminal liability to be established against a UK pilot.

Liability does, however arise under Section 21 of the Act which provides:-

21(1) If the pilot of a ship-
(a) *does any act which causes or is likely to cause the loss or destruction of, or serious damage to, the ship or its machinery, navigational or safety equipment, or the death of, or serious injury to a person on board the ship; or*

(b) *Omits to do anything required to preserve the ship or its machinery, navigational equipment or safety equipment from loss, destruction or serious damage or*

to preserve any person on board the ship from death or serious injury

And the act or omission is deliberate or amounts to a breach or neglect of duty or he is under the influence of drink or a drug at the time of the act or omission, he shall be guilty of an offence.

Section 21(2) provides for a maximum penalty of two years imprisonment or an unlimited fine.

In a recent case the prosecuting authorities gave notice that they had it in mind to prosecute the pilot of a ship which had been in collision with a ferry under the command of a PEC holder. The ferry had suffered much damage, fortunately without loss of life. It was then pointed out to the prosecuting authorities that although the ferry had suffered substantial damage,

(a) The pilot had caused no loss or damage to his own ship and

(b) Was not under the influence of drink or drugs.

No prosecution was started. The incident did, however, identify the fact that Section 21 applies only to a case where a pilot causes damage to his own ship, either deliberately or by drink or drugs. The Section does not apply to a pilot when a ship other than his own suffers damage; and, rather more significantly, it does not apply to a PEC-holder at all. Shipmasters (including shipmaster-PEC holders) are of course subject to other legislation.

An interesting criminal prosecution of a pilot did occur in 2002 under Section 15(2) of the Act. The pilot (who at the time was on strike!) had been appointed to the command of a vessel which was about to transit his own compulsory pilotage area. The pilot/shipmaster reported to the CHA that he did not wish to engage another pilot, for the fairly obvious reason that his own pilotage qualification remained fully valid and he duly put to sea, performing his own pilotage. The CHA took a strict line and prosecuted the pilot/shipmaster for failing to take a pilot when he was obliged to do so.

At Court, on taking legal advice, the pilot/shipmaster pleaded guilty to the offence in the light of the statutory definition of a pilot which provides that "Pilot" means "*any person not belonging to ship who has the conduct thereof*" and "pilotage" shall be construed accordingly.

Because a master plainly "belongs" to his ship, this provision means that no man can be both master and pilot of the ship at the same time. The penalty imposed by the Court was nominal and the CHA was obliged to pay an overwhelming portion of the costs of the prosecution.

Bridge Team Terminology in the Master/Pilot relationship

by Mrs Margriet Torpstra, pilot in Rotterdam

After the collision of the *Cosco Busan* in San Francisco Bay communication in the master/pilot relationship has become a hot item again. Masters and pilots are becoming more aware of the importance of clear and unambiguous communication and the world around them is pressuring them to work and communicate together as a team.

Last month I flew from Amsterdam to Stockholm and saw the cabin and the cockpit crew of my flight meeting for the first time. It was clear that they did not know each other.

The pilots were laughing, making jokes and shaking hands while the cabin crew was just a step away. There was a polite nod to them but they were not directly addressed. However during the flight I overheard their communication and the

cabin crew used terms you can hear during any flight. This is the result of extensive training. They are unambiguously informed and know exactly what to do and what to expect from each other. They love working this way and love their jobs. I realised that in the past this was not normal at all. Power distance, lack of assertiveness and no delegation were the basis of day to day behaviour. The consequences of that in flying were disastrous.

Standard communication was introduced and clear standard operational procedures were stated. Now every crewmember is aware of his or her duties. **Extensive training on simple and clear behaviour makes all the difference.**

As a BRM workshop leader I have often been told that my workshop is good for awareness but not really good at providing

workable solutions. As a maritime pilot I understand these remarks.

Maybe the time has come to give a different solution for the co-operation between pilots, masters and crew: Bridge communication and terminology can be standardised.

VTS, the airline industry and industrial plants do it. Even hospital crews do it. To be honest when I have to be hospitalized, I surely hope doctors and nurses are communicating as a team and understand each other clearly. Masters, watch officers and pilots, can work on improvement.

Briefings can be clear and checklists used by all. Standard operational procedures can be used by all professionals in shipping in the same manner as other industries.

State clearly and unambiguously what you want to know and do not assume anything about the intentions of the other party. Much of this has already been developed. **Pilotage lacks simple and clear modules for training to put this in practice.**

The question is: Do we realise that we function better as part of the bridge team or do we still believe that sharing professional doubts weakens our status? A single person error can easily happen when information is not shared.

In a challenge and response environment the master brings in his responsibility for his vessel and the pilot his local knowledge. That means teamwork with clear and simple ways to communicate. We can develop a **Bridge Team Terminology** for normal and everyday piloting. The pilot can ask who of the bridge team is responsible for the navigation and a mate reporting vessels nearby is not weakening his position. A pilot may expect to be warned when anything comes within a certain range and when communicating with VTS should be standard practice to explain all information to the bridge team. The helmsman should be given special attention and the correct execution of helm orders checked by a third person. The pilot should never be working alone.

The pilot then becomes a truly skilled and appreciated professional instead of just another stranger on the bridge.



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REMEMBER

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OBITUARIES

Captain Daniel Ivor McMillan (1927 - 2008)



Retired River Thames Pilot Dan McMillan died on 31st March 2008.

Born in Portsmouth 24/9/1927, he was taken back to the Gravesend area by his Mother in 1928, after the unfortunate death of his Father, and brought up in that same

district. With its long history of shipping and the River Thames, it would seem to be a natural follow on that he chose a career at sea. Dan joined Messrs Watts Watts, an old established company of Tramp Ship Owners, in 1944 as an Apprentice, his first ship being the ss *Beckenham*, and spent 4 years with them putting in his time towards his first professional qualification, his 2nd Mates Certificate. During the time he spent at sea in the latter part of World War 2, he served in Atlantic Convoys, in the Mediterranean, and in the Far East. For this service he earned 4 Medals, Atlantic Star, Italy Star, Burma Star and India Service Medal.

Thereafter, he worked his way up through the various Officer ranks, gaining his First Mates Certificate, and then Master Foreign-Going in 1953, first of all with McAndrews and then with Comben Longstaff, where he was promoted Master, and held this position in several of their vessels until 1955, when he was appointed as a Trinity House River Thames Pilot.

During his time as a Pilot, Dan became a member of the River Pilots' Committee, and eventually became Chairman. He was also a member of The London Pilotage Committee

at Trinity House, and was known to strongly defend the position of all London Pilots in general. During this time, he was an examiner of Masters & Mates who wished to acquire Pilotage Exemption Certificates. He was always a staunch supporter of the UKPA (now UKMPA), attended many conferences as a delegate, then became a member of the executive committee in 1970, elected Junior Vice-Chairman in 1973, and this culminated in him becoming Chairman of the UKPA in 1978, which office he held until 1983. Afterwards, he was made an Honorary Vice-President of the UKMPA.

During the late seventies and early eighties, Dan was appointed as a member of the Steering Committee on Pilotage (SCOP) and then later as a member of the Advisory Committee on Pilotage (ACOP). Both of those committees were set up by the Government to look into the various aspects of pilotage, with a view towards the massive changes which resulted in the Pilotage Act 1987 and the change over to port authorities in 1988. At this stage, he had to retire owing to ill-health, but in typical fashion, was involved in the negotiations with the port right up to the final day under Trinity House. In 1993 he became a member of the Pilots' National Committee for Pensions (PNCP) and was well known for his views and protection of the rights of Pensioner Members. This committee was eventually thought to be unnecessary by the Section Committee approximately two years ago, and disbanded.

Apart from his sea-going and pilotage duties, Dan became a council member of Gravesend Borough Council in 1959, then an Alderman in 1964, then as Deputy Mayor in 1966/67 when his stepfather was Mayor, and finally as Mayor of the Borough in 1972. After his term in office as Mayor, he reverted to being a Councillor, and was very well respected in this office. The electorate in Gravesend, from his own ward in particular, but also from other parts of the town, knew that if they had a problem with any officials or office personnel from the Council, a consultation with Dan usually resulted in a satisfactory conclusion. In recognition of his services to local people, and to the Churches' Housing Association, he had a road named after him in the Singlewell Ward of Gravesend.

In 1991 the former Trinity House River Pilots formed a Society, which still functions today, albeit with very much reduced numbers, and Dan was appointed as Chairman at the inaugural meeting, a position he held until his untimely death.

Dan was always a supporter of charities, and did a lot of work for the local branch of

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the Leukemia Research Fund in particular, where he was Chairman from its foundation in 1972 right up until his death. During his time in office, he helped raise over £1m for the fund. He kept this side of his life very low profile, but his valuable assistance was appreciated by many. One of his last positions with a charity was as Chairman of the Gravesend Churches' Housing Committee, but failing health caused him to resign from this post about 2 years ago.

Dan was very proud of his Scottish heritage, and traced his roots back to Scotland, the Isle of Arran in particular, which is the traditional home of the McMillan Clan. For many years, Dan, Mildred, four children, and the dog, went to Arran for their Summer holidays and had many friends on that island. Their last visit there was in 2005 and I was pleased to make the short journey from Edinburgh and meet them.

There are many accolades which one can pay to former colleagues, and in this case, not enough, all I can say is that he was a great person to work with, always with the best interests of Pilots at heart, and I am very privileged that he was a personal friend too!

The funeral service was held at Christ Church, Gravesend, on 15th April, and

many friends from all the various aspects of Dan's life were there to pay their last respects.

Afterwards, there was a private family committal at Medway Crematorium.

Dan will be sadly missed by us all, and especially by his wife Mildred, sons David and Andrew, daughters Sally and Susan, and by the ten grandchildren.

*Eric Eagle
Retired River Thames Pilot*

Anthony Harold MacKenzie Thurgood (1930-2008)

Tony Thurgood was born in Forest Hill, London. He joined HMS Conway in April 1947, and left in April 1949 to join the Union Castle Mail Steamship Company Ltd. He left the company in 1960 with the rank of Chief Officer.

Tony was then living in Teignmouth, Devon and was appointed a Trinity House pilot there. After a short period the London List opened and he applied for the Gravesend Sea Pilots. He was told that he must hand in his Teignmouth licence and wait two years for appointment, and so he returned to sea in HMS cable ships. His voyage in HMTS *Monarch* was round the

world, stopping to lay the first telephone cable between Australia and New Zealand, and then on to Vancouver Island buoying off 'en route' in Hawaii.

Tony was appointed to the Gravesend Channel Pilots in 1963 and always described his twenty-five years at Gravesend as the happiest in his life.

He was retired on the sick list in 1988.



LETTER

I am a retired Humber pilot and was interested to read the two articles in the January issue on Bridge Visibility and Squat. On Bridge Visibility I do understand the Southampton Pilots' problem I was a member of the UKPA technical committee some years ago and was invited to write a chapter on Bridge design for inclusion in the Nautical Institute's Pilotage and ship handling book (1990). In the first paragraph of my piece I made the point that the primary reason for having a bridge is so that a lookout can be kept. What a pity no one seems to have read it, or if they did what a pity they took no notice. My co writer LJ Harrison made the same point in his submission as it relates to off shore supply vessels.

On the subject of squat I would offer the following thoughts, Dr Barrass and most of the other writers on the subject use towed tank models. This may well reveal some aspects of squat and verify Bernoulli's equations but a towed model has no propeller and I (simple sailor boy that I am) think that the propeller draws water from not only the sides of the ship in way of the stern run in but also from underneath the vessel and I think that drawing water from under a ship which is in shallow water will tend to make the after draft increase a bit. The tank towed model does not usually have any ballast water, cargo etc either. When a

vessel suddenly runs into shallows, the first thing that usually happens is that the vessel drops by the head. I think that when that happens any water in slack ballast tank to say nothing of a tanker cargo with a reasonable ullage will tend to surge forward adding to the trim by the head effect and also I seem to dimly remember some ship stability which says something about the centre of floatation moving aft under these sort of conditions which would also add to the effect. However the fact that the forefoot may not touch bottom may be because the water cannot get away from under the bow fast enough in a very restricted dredged channel for example and because liquids cannot be compressed it may be that the bow is riding a water cushion. The last vessel of which I was Master before joining the pilot service was fitted with a bulbous bow and even in very deep water (Norwegian fjords) when bottom proximity was clearly not a factor my observations seemed to suggest that as soon as we had a reasonable bit of way on, the bow dropped about 18" or so. On a sea passage as stores and water and bunkers were consumed from aft the effect was very noticeable at an arrival port and I think bulbous bows have a downward thrust when the vessel is loaded. For hundreds of years sailors told of experiencing huge waves yet no one believed them because the maths people said the equations proved it was not possible. Then when waves were measured and observed by satellite and radar it was

found that they did indeed exist. WAS THERE AN APOLOGY FROM THE DOUBTERS? NO! And I do not think the good Doctor will be saying sorry to the Houston and other pilots either.

Mike Barratt

PS Just to make my point about the propeller taking water from under the vessel I can tell you that some time ago the regular line running to Grimsby built a ship called *Dana Maxima* so named because she was built to JUST fit Grimsby Lock and the vessel always sailed through the open lock when the river and dock were level. One day the vessel arrived a bit deeper than usual but still within limits. However, as she got to a position head and shoulders in the lock she squatted down and sat on the lock sill. At this juncture the assistant dock master threw his hat on the dock side and began to dance on it. The pilot ordered the main engines stopped, ran some headlines out and hove the vessel ahead, she having refloatated when the engines stopped. The bystanders may have missed this stage of the proceedings as they were enthralled by the dance of the demented dock master! Once the stern of the vessel was clear of the outer gates they were closed and the ship's engines were restarted and the vessel duly proceeded to her berth.

Associated British Ports now make the dock masters wear hard hats to discourage hat dancing as it is considered unseemly!

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