



# THE PILOT

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## RAF HELICOPTER RESCUE OFF TEES

B Pette

On the 20th January, 1979, I was overcarried on a 97,000T dwt loaded tanker. Because of atrocious weather conditions in Tees Bay I was left with the faint hope of persuading the Master to land me at the Firth of Forth pilot station but, on examining the vessel's charts, I saw the cause of his hesitancy. The chart folios were incomplete and most charts were at least five years out of date. Also the vessel had no Decca Navigator and one poor workable radar.

When the vessel had cleared Tees Bay, course was set North with the vessel rolling heavily and myself not looking forward to a trip to the United States.

It was at this point that two of the multi-national crew burst onto the bridge and, with great difficulty, explained to the Swedish master that the Boatswain had been injured by one of the steel weather-deck doors.

Whilst the master was occupied giving first aid, I attempted to obtain medical advice by radio. The NHS was at this time in chaos, due to industrial action, but Cullercoats radio obtained the advice of a Blyth doctor, who recommended immediate removal to hospital.

Tees Coastguard then took over from the Coast Station and a helicopter was dispatched from RAF Boulmer, which



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had become operational with Sea King helicopters only the week previously. The weather conditions at the time were vertical visibility about 150 metres, horizontal visibility about  $\frac{1}{2}$  mile in snow squalls and a 6 metre swell running with winds gusting over 60 knots.

Explaining to the crew the requirements for a winching operation was difficult but the following points have to be complied with:—

1. Communication: Helicopters have VHF channels, 16, 0, 6, 8, 9, 10, 13 and 14. Also DF facilities on 2182. KHz and VHF 16.
2. Position. In latitude and longitude or Decca co-ordinates.
3. Keep injured man in accommodation as a special stretcher is brought down by the winchman who will supervise transfer of the injured man to the winching position.
4. Man to winching area to meet helicopter winchman.
6. The heading, speed of ship, and winching area are determined by the helicopter

pilot after he has assessed the situation. In my case, I was allowed to position the vessel so as to ensure the safety of the crew, with the wind and sea four points on the port bow and steaming at about five knots.

The Master was anxious for me to go with the helicopter, as was I, so I was delighted when the pilot said "no problem" to my winching up the 80 feet to the helicopter. Tees pilots had practised this manoeuvre about nine years ago with Bristow's and I found no difficulty in donning the harness or getting into the helicopter. The injured man came up in the stretcher accompanied by the winchman, who then brought up his personal gear.

Seven minutes after leaving the vessel the injured man was in an ambulance and subsequently was able to return to Turkey after excellent care in Middlesbrough General Hospital. As for myself, I was back on a ship two hours later but, this time, landing by Pilot Cutter in a more normal but uncomfortable manner.

## The Search and Rescue Helicopter Squadron — a brief history

The ever increasing calls upon the Search and Rescue Helicopters around our coasts, and the help and advice the Boulmer Squadron have so readily given to our Pilot Service Technical Committee merit a brief resumé of the history of this important arm of the Royal Air Force.

The 202 (SAR) Squadron can be traced back to 1914 when on the 17th October, No. 2 Squadron Royal Naval Air Service was formed at Eastchurch, and the first appearance of the Squadron with its present number was 1918 and No. 202 Squadron served the RAF during both World wars. In 1964 the Squadron was designated No. 202 (Search and Rescue) Squadron and has remained in the rescue role continuously since then with four flights, of which 'A' flight moved to its present location at RAF Boulmer from Acklington during 1975. The Whirlwind helicopter was replaced here by the Sea King Mk. 3, which arrived complete with air and ground crew personnel in December 1978, assuming

responsibility for the Search and Rescue role in the area on 1st January, 1979.

The SAR helicopters of the RAF are established to provide rescue facilities for airmen of the RAF and NATO air forces using UK airspace, though, subject to military requirements, SAR assistance is also made available to civil aviation, and in instances of maritime and general civil distress. To provide this cover, each flight is established with two helicopters and the required aircrews and full ground support facilities to enable a 24-hour watch system to be maintained throughout the year. The designated area of responsibility for the Boulmer squadron extends from St. Abbs Head to Staithes on the East coast and approximately Dumfries to Lancaster, on the West coast.

The recent introduction of the Sea Kings to RAF Search and Rescue represents a major step forward in all aspects of the role, with any comparison with the familiar Whirlwind it has replaced revealing a far

more sophisticated aircraft, able to operate in all weather and particularly at night over a range up to four times as great as that of the Whirlwind; an example being the Northumberland Coast to Stavanger and return. The Sea King, which can seat 18 passengers in addition to its crew of two pilots, a radar operator and a winchman, has an automatic transition and hover facility which enables a descent over the sea to a safe winching height and hover to be executed with the pilot flying "hands off"—even at night. Having practised with the Boulmer Sea King squadron at night, I can vouch for this fact, though the winching off from the bucking deck of a lifeboat is not for the faint of heart! !

Radar is carried to enable the crew to locate ships in all weather conditions and the winch system incorporates some 250 feet of cable, more than four times the length of Whirlwind cable. Injured survivors are winched into the aircraft using a specially modified Neil Robertson stretcher, the winchman being trained in first aid with a comprehensive medical kit aboard the aircraft. Close liaison is maintained with HM Coastguards, Police and Mountain Rescue Teams, the latter being of particular importance in the Lakeland area, well within the Boulmer Sea King's reach.

In summary, the new 9-ton yellow Sea King with a maximum speed of 150 knots, maximum underslung load of 6000 lbs, wide range of radio and navigational equipment will maintain and improve the fine legacy left by its predecessor, the Whirlwind.

*C M Irving*

## Letter to the Editor

### TH Advisory Board

On Wednesday, 14th, the Trinity House Advisory Board held what was stated to be its last meeting. Other than détente this body has achieved very little except to persuade Trinity House to create a representative Board.

The proposed composition and functions of this new body took up most of our time but, at the end of the day Trinity House produced proposals which the penultimate

meeting was very opposed to, and since then have added another member to their team, making the new Board overwhelmingly TH orientated.

We have not seen the final proposals, so what changes the Advisory Board has persuaded the TH Board to make are as yet unknown . . . but I suspect very few and those very insignificant.

A Board of six Trinity House, four Pilots (although there would be five for a short time to start with), three Ship Owners and three Port Authority representatives can in no way be deemed fair and reasonable proportions. The yardstick accepted by ACOP, that the Pilots should have the largest single group, is completely ignored.

The pilots still on the Board (I of W, Poole, and Yarmouth) did in effect not attend that last meeting . . . the unexpectedly abnormal weather that day, and its effect on British Rail, caused us not to arrive until 1130 and 1145 and for the first time since its conception the meeting concluded at noon.

The Advisory Board is, or should be, of particular importance to the Outports: this is their umbilical cord to justice and financial guarantees needed for the heavy overdrafts required to run their Districts, so full and proper proportionate representation could be vital.

All interested parties will eventually be circulated with the final format (this includes each and every TH Pilot). The Pilots will now have to decide if the final format is acceptable or if we are to insist on full and proper change. What Trinity House are now saying in effect is . . . you can rule yourselves so long as you are doing as we want you to do.

I could not recommend any pilot to accept so many TH members on the Board (we had reluctantly conceded they have five) or the right of the Main Trinity House Board to change the format without the full consent of the Executive Board.

However this is a democracy and the majority of pilots may wish this Board at this price (I know there are some who do not want it at any price) so the reactions of the pilots once the proposals come out (although TH do not consider them proposals . . . they look on them as fact . . .

*(Continued at foot of next page)*

# TECHNOLOGY AND YOU

## or How To Be An Expert Without Really Trying

Since becoming a member of the Technical Committee I have been amazed, overwhelmed and latterly bored with the torrent of words being written about the environment in which I work. This is not saying, however, that those words are unnecessary, or that the writers are not genuinely trying to improve that environment—they probably are, but it would seem to very little effect.

This article was initially something like "War and Peace" in length but I have cut it to its present form for divers reasons. I doubt that it would have achieved the acclaim of "War and Peace" anyway. To those who will say it should have been cut completely (and there will be many) I use the words of Marcus Aurelius Antoninus, "Look beneath the surface, let not the several quality of the thing nor its worth escape thee."

This brings me to a word I have picked up lately which seems to be in wide use amongst those who 'know'—Ergonomics—the study of the efficiency of workers and of their working arrangements. Now I would like to see an ergonomic study of all those workers who are doing ergonomic studies of one kind or another of the seafarer. The percentage of achievement compared with the work involved would, I think, be an interesting statistic. Why is it that such a large number of people, from schools, colleges, polytechnics, universities, institutes, consultant companies, manufacturing companies, Armies, Navies and Government bodies, have become involved in this field? The answer in many cases, I feel, is to be found somewhere in Parkinson's Laws, but I must exercise a degree of fair play here and say that there is a vacuum in knowledge which just has to be filled. The

and this they will be so if the majority do not object) are paramount.

I would be interested to know individual Pilots' or Districts' reactions.

*George Malcolm Logie  
(appointed Outports member)*

vacuum is created because, generally, the seafarer, the real expert, is too lazy to get off his sitting gear to do anything about the problems he encounters. He either lives with, or gets over somehow, the shortcomings of the ship he is on at the time; the only identification of these problems being contained in a variety of terse sentences used between one another. 'She' is a good ship or a bad ship. 'She' is a hard headed B. 'She' has no stern power. You never know what 'She' is going to do next, *etc, etc*. Now the owner or designer would get little from such utterances, were he ever in a position to hear them, which I doubt, because these things would rarely be spoken of to him. Discussion of such things with anyone other than professional seafarers seems to indicate, for some strange reason, a shortfall in the speaker's capabilities to master these ships and their shortcomings.

One sees the same quirk in car driving. A man will admit to all kinds of inabilities in a million other activities, but I have never heard any man admit to being a bad driver. Now there's a subject for study!

This kind of reluctance or indolence is found in pilotage. Take pilot ladders—and I wish someone would. You all know how many words have been spoken and published on this seemingly simple method of getting on board a ship. We now have regulations on them and still it is a subject of discussion, of papers and argument. Why is it, when it has got to a stage where people are sick and tired of reading about pilot ladders, we still have a situation where the greater percentage of this relatively easily made piece of equipment does not meet the standards laid down by the regulations? Simple! Because the people who use them just cannot be bothered to do anything about it. It means going into writing, which is tiresome, or arguing with the Master of the ship, which is not the best way to start the relationship between Master and Pilot required to progress the ship safely to its berth; or, as I have said before at Conference (where have I heard

that before?), some of us would climb a knotted rope if it suits our purpose at the time.

Mike Irving from the Tees has recently, along with his colleagues, done a tremendous amount of work in researching and testing recovery methods with their pilot launches and Mike, I may add, has even gone into the water and put his life at risk to demonstrate that the clothing they wear and the methods they use, do work. I admire greatly his dedication in endeavouring to secure the safety of all of us and nothing can detract from the work that he has done in this field, but, not many pilots fall from well found ladders, properly secured in the right place. So, it is up to you to do something about it. You have the power backed by the regulations, so why not make an effort to see that they are enforced? You may, of course, have masochistic tendencies towards this kind of risk, in which case, forget the last plea.

To go back to the vacuum in knowledge which I mentioned earlier, 'bridge design' is a subject which is fast following and indeed may have overtaken 'pilot ladders' in the volume of words and the time consumed in research. There are literally hundreds of people actively engaged in this field trying to design a bridge that will be the perfect bridge. The subject is being attacked from all angles, up, down and sideways. Many variations are being built and tried and pilots have seen them all. You have worked in everything from the bare box with wheel, compass and telegraph to the ultimate in technology where you have been bemused, dazzled or just plainly annoyed by a conglomeration of coloured lights, switches handles, horns, buzzers and dials, generally housed in a huge box that you can neither see over or get around. Because of your work, you must have collectively a great deal of knowledge about ships' bridges, the good points, the bad points, the problems of badly sited instruments, no instruments, poor visibility *etc, etc*, which could not possibly be collected by a researcher, no matter how diligently the research was carried out. So, instead of going back to your station and recounting the tales of horror and high adventure to your colleagues, sit down, put pen to paper and write to the Technical Committee and tell them why things were wrong and what

would have put things right. Believe me, you will get a great deal more personal satisfaction from doing that than by telling your colleagues. After all, they have had their own problems and they will all think that theirs were greater than yours.

The reason why I feel that the Technical Committee needs your knowledge is because there are a number of people taking an interest in bridge design who start with, and seemingly mean to go on with, the concept that every accident is caused by "human error", and by this they mean that it was your fault. This concept will, I am certain, need to be corrected at some time in the future.

I attended a seminar on Bridge Design and, after listening to some of the speakers, but one in particular, was left with a sick feeling akin to having eaten something bad. This particular speaker, representing a shipping company which shall remain anonymous for this article, contributed little towards the actual design and layout of the bridge, but felt that the answer to the problems, certainly as far as his company was concerned, was to implement a voyage plan, which plan would be brought up to date by the pilot with his local knowledge and that plan would be adhered to until the ship reached its berth. To see that the plan is carried out, everybody is on the bridge checking on everybody else, from the Master to the pilot and on to the third mate and lookout man. An excellent idea on paper but in practice it becomes a monster leading to wholesale discussions on even a course alteration, to see if it is the right one. Anyway, I don't feel this exercise requires in-depth description because your own experience, coupled with a little imagination, will provide that. It must be pointed out though, that in furtherance of this checking system, IMCO, in spite of UKPA objections, has accepted that an officer of the watch, after having called the Master, shall implement his own ideas, if he is in doubt about what the pilot is doing. An 'M' notice (M854) to this effect has been published.

Personally, I care not if all hands are checking what I do. It creates a bad atmosphere but I can live through that. What I do care about is the time lag between my wanting something and getting it. If I need

to explain my reasons and then have them checked to see if the reasoning is good, I may as well go home.

Another piece of research I have had the 'privilege' of reading recently is a report on "Tug Usage in the United Kingdom". I will not go into the whys and wherefores here except to say that one of the main conclusions which will be of interest to you, the pilots, is that generally you use too many tugs to do the job and that your use of tugs is based on old fashioned ideas and because you have always used them. I can imagine the howls of protest that this will raise and I must add that I howled a bit myself. However, how do you use tugs? What parameters do you use to determine the number and/or bollard pull that will be required to do the job? Do you know the power, in terms of bollard pull, of the tugs in your district? Do you know what tugs will be available or are appointed to you? Is this availability liable to be changed after you begin the voyage? Are you made aware if one of the tugs cannot give maximum power? Can you change the tugs available to ones you consider more appropriate for the job? Once again I must state that only you know the problems and the answers. Please tell the Technical Committee about them.

Take time off from those pressing pursuits like decorating, plumbing, reading, golf, horse riding, car repairs or just plain doing nothing, to identify the problems encountered in doing your job, technical problems, of course, and what you think the answers are. If you don't, the indications are that somebody else will and they won't be pilots! If you don't believe this then you have either got your head in the sand or are being foolish in the extreme. In pilotage and its associated problems, the Pilot is the expert, or at least he should be, and by this I do not mean that he has mastered the art of walking on water. Anyone who thinks he has that capability will need to be very careful. The consequences are extreme.

In conclusion, this article has been written to give just a tiny insight into things which are going on around you and your job and to get you, the individual pilot, to take an interest in these things and climb on the bandwagon which is rolling forward, because if you don't you will be run over

by it. I remember a remark made at a UKPA Conference by a leading dignitary of the host port which shall be nameless. He said that he had heard of the Silent Service before, but we were so silent he hadn't even been aware of our existence!

If the article has angered, amused, disgusted or dismayed you in any way then it has done its job and I make no apologies for its content or its omissions, at least not yet! I only beg you to take an interest.

*Peter Yates*  
National Technical Committee  
March 1979

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## N.I. Contributions and the Trainee

The Department of Health and Social Service Headquarters have affirmed that the period during which trainee pilots undergo full-time training and do not receive remuneration cannot be regarded as employment.

In consequence, trainees are excepted from liability for contributions at either the employed earner or the self-employed earner rates. They are, of course, entitled to pay at the non-employed class 3 rate.

They are therefore excluded from Industrial Injuries Benefit, but, nevertheless, the DHSS advise that, in the event of accident, the trainee should report and lodge a claim.

*Gerald Coates.*

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## Car Discount

As from October, 1978, Welch & Co. Ltd. of Newport, Gwent, have extended to members of the United Kingdom Pilots Association a special concession of 16% off the basic price of Fiat motor vehicles.

This offer is only available from Welch & Co., and any information required, such as part-exchange allowances, vehicle prices or delivery arrangement, could be discussed by telephoning Keith O'Connell at Newport (0633) 843231, 57353 or 66116.

## OVERBOARD RECOVERY

*An Account of a Pilot Falling into Water on Saturday, April 7th 1979, whilst Attempting to Board a small British Tanker in the River Tees Estuary*

P Dunn

A small British coastal tanker bound in for Teesport in ballast, sent an ETA to the Pilots for 0200 hrs, 7th April, requesting the Pilot to board near the Fairway Buoy, despite the prevailing weather conditions at the time; Wind NNE 2/3 moderate to heavy NE swell. The ETA was subsequently amended to 0145 hrs, and I boarded the Pilot Cutter *High Force* at approximately 0130 hrs, meeting the vessel inside the Fairway Buoy some fifteen minutes later with the intention of boarding on the starboard side, the ship having the sea on the port quarter. The Cutter Captain, via the deckhand, requested the ship to take the pilot ladder, rigged on the main deck, inboard, as the ship's maindeck was level with the Pilot Cutter deck. The Pilot Cutter approached the ship on the starboard side, my standing by awaiting an opportunity to cross from the cutter to the ship, holding onto a manrope. At the moment I made my move to cross from the cutter to the ship, the cutter and ship rolled away from each other and I fell into the water between the two. The Cutter Captain immediately stopped the engines of the cutter and a crew member of the ship ran aft and switched on a ship's floodlight, which enabled the cutter deckhand to pinpoint my position immediately.

My first instinct after falling into the water was to kick away from the ship. When clear I attempted to inflate the buoyancy lung of my safety jacket and could only manage one blow as the intense cold of the water took away my breath, and I was swallowing a lot of water. This only inflated the collar part of the lung, the effect being to push my head into the water. The initial panic of being in the water was passing due mainly to the fact that I knew that I'd been spotted, which of course was a tremendous relief. Remembering some previous survival drill, I stopped swimming

and laid spreadeagled in the water on my back facing the direction of the Cutter, in order to get my breath back and try and conserve energy. I did not attempt to activate the safety light on my coat as on the newer coats the pull cord is situated in one of the pockets and, as the coat had bunched up around my chest, I was afraid to try and locate the pocket and pull cord maybe trapping my arm, which by now, had little feeling.

After being in the water for only a few minutes I began to feel the effects of the cold water and could not move towards the lifebuoy when first thrown, even though it was no further away than 3-4 feet, but wriggled the buoy over my head after another attempt from upwind brought the lifebuoy within arms length. When the attempt to heave me onboard on the port side was tried, I was lifted until my head was level with the deck but then I stuck the lifebuoy choking me, and this had to be abandoned in favour of the rescue davit.

Being towed around the quarter in the lifebuoy was very unpleasant, I being very conscious of the propellers (which of course were stopped), and having by this time no feeling in, or control whatsoever of my legs. When held by the lifebuoy on the starboard side I was plunged several times under the water with the rolling of the cutter until I managed to grasp a tyre fender which kept my head above water most of the time.

I am not really aware of how I got both arms into the rescue strop lowered down to me but can still vividly recall the intense relief and feeling of security whilst being winched aboard. It was after I was assisted into the wheelhouse that the Captain had the first opportunity to inform the Pilot Shore Station of the incident, he asked the Pilots ashore to call an ambulance as they

had just retrieved me from the water and I was suffering from shock and exposure. (This was the first intimation that the Pilots or the Harbour Office had that anything untoward had happened.)

On arrival at the jetty the cutter crew administered first aid to me, having to vigorously massage my arms and legs, my complaining of severe pains in my hands, and little or no feeling in my arms and legs. I was taken to Middlesbrough General Hospital by the ambulance where I had a medical check and was subsequently discharged.

The following day, the only after effects were that I was extremely tired, and that virtually every part of my body ached.

### The Cutter Captain's impressions and feelings

Having seen the pilot fall between the cutter and ship, my first reaction was to promptly stop the engines and equally as important see that the other two cutter crew kept the pilot in sight at all times, his safety jacket light appearing not to work. The real fear of losing sight of him meant the cutter, once clear of the ship, was turned short round to port, my being surprised at how far astern the pilot had floated in so short a time. The darkness of the night, the sea, and the pilot's clothing made him very difficult to see and I felt that, if we were ever to lose sight of him, we might have real difficulty in relocating him.

The relief of having him alongside and in the lifebuoy made the thought of how to bring him on board almost a secondary consideration. It was only on having him alongside in the lifebuoy that the realisation came that the rescue strop and davit were on the other side, and that in his obviously distressed condition we could only safely recover him in the heavy swell by means of the davit.

The leading round to the davit further extended his time in the water and added to his continuing exposure and discomfort, and it was only with the greatest of good fortune that he so quickly got into the strop; from then the recovery to the deck being very quickly executed.

After some 20 minutes in the water, the pilot was semi-conscious and quite incapable of helping himself.

The disappearance of the ship involved from the scene, and the ensuing absence of any lee or further floodlighting made the recovery more difficult and we were indeed more than fortunate to locate and safely recover the pilot. The ship proceeded into the Tees, and berthed without a pilot, and without making any offer of assistance.

### Lessons learnt from Pilot's point of view

- (1) Always wear safety jackets correctly—ie partially inflated and fastened with girth belt, and with coloured hood pulled out (if fitted).  
Recommend that jackets have retro-reflective patches and/or dayglo hoods.
- (2) Avoid any attempts to swim, lay on back to conserve energy.
- (3) Suggest carrying small waterproof torch, whistle on lanyard and jacket light with pull-cord and battery situated on outside of jacket.

### Lessons learnt from Cutter's point of view

- (1) Prompt stopping of engines.
- (2) Switching on all available lights, firing parachute flares and throwing overside of scatter lights and/or lifebuoy with light to established "man overboard" position.
- (3) Post cutter crew as lookouts.
- (4) Initial contact to be made with lifebuoy and line, to bring man alongside cutter.
- (5) Recommend recovery davits/boom to be fitted on both sides, in full view of man at wheel, as against stern recovery in proximity of propellers.
- (6) Recommend regular "man overboard" drill, as time is vital. (Our previous exercises proved invaluable in this recovery.)

# HUMAN FACTORS STUDY OF MARINE PILOTAGE

## I—Workload Studies

The main Study had three facets: medical, psychological and workload. The account which follows concentrates on the workload investigations.

A distinction is made for the purposes of the study between "Direct" and "Indirect" workload. The former means the effort and energy involved in boarding and disembarking from ships, together with the actual pilotage, while the latter covers other aspects of the work, such as standing-by at home or pilot station, and the travelling to and from vessels being piloted. Very broadly, the direct workload was assessed by physiological monitoring of the pilot's heartbeat, and actual observation of pilotage acts by a member of the research team; indirect workload was studied by having pilots keep diaries of their activities over a period of time. However, there was some overlap between these two approaches: for example, insights could often be gained into types of pilotage acts through the diaries, and the observers who accompanied pilots on duty were able to see much of the indirect workload.

### Direct Workload

The pilots, who were actually accompanied on duty and physiologically monitored at the same time, came from Milford Haven, Manchester Ship Canal, London District and the Medway. They were observed performing the acts of pilotage which they would carry out in the normal course of events. With a few rare exceptions there was no deliberate attempt to single out special jobs to be studied. It is believed that the acts observed were representative of the general run of pilotage in the ports involved. It was obvious that there were considerable differences between the ports, but certain underlying similarities enable some generalizations to be made.

The physiological monitoring involved the pilot carrying a small tape recorder slung from his shoulder but largely hidden by his jacket; after a short while many pilots said that they had forgotten they were wearing it. This machine maintained a constant record of the man's pulse rate, picked up by a pair of adhesive pads attached to his body. The tape could afterwards be played back on a special device for converting the recorded signals into pulse rates. A member of the research team kept a log of what occurred during the pilotage act, and this log was afterwards compared with the output from the recorder tape. A very basic question was "Are pilots' pulse rates higher when they are piloting ships than when they are engaged in 'average' general activities on shore?" The answer is a definite "Yes." Occasionally a pilot's pulse rate was over 140 bpm, or even 160 bpm (bpm=beats per minute). This is the sort of level reached by racing car drivers in races, or sometimes by ordinary car drivers in unusually dangerous situations. For most of the time in pilotage a pilot's pulse rate was in the 80s or 90s, but, from the little comparison data available, this is still higher than the general run of pulse rates reported in other workers performing demanding tasks, such as Air Traffic Control or some types of Industrial Management. On the whole, the sea pilotage, coastal navigation, type of act produced somewhat lower rates than manoeuvring ships in restricted waters, but the sea pilotage often involved hours of sustained vigilance in the absence of environmental stimulation—another problem in itself. Certainly, during the actual pilotage manoeuvres such as swinging and berthing or unberthing, entering locks, and so forth, produced the most noticeably raised pulse rates. The size of the ship made a difference, but this appeared to be a matter of relativity; although the

few VLCC's which figured in the studies usually produced rather high pulse rates in their pilots, there were also some high rates in the pilots of small vessels, for example, during awkward berthing manoeuvres. It should be mentioned that the range of normality for pulse rates is rather wide, and individual pilots might find that their own pulse rates vary somewhat from the figures quoted.

Boarding and disembarking always produced high pulse rates with high free-board ships, whether using a pilot ladder or mechanical hoist. There is a maximum pulse rate which individuals can attain, and it declines with increasing age. The evidence from the study is that although the maximum rates were occasionally being approached they were not actually being reached; in practical terms, this means that older men were going up ladders more slowly, as if they were unconsciously making allowances for their age. However, the research team are of the opinion that pilots should resist any increases in the total heights to be climbed; anything greater than 75 feet from waterline to bridge may impose unacceptable strains on many men, and some may be near their maximum at even lower heights.

In general, the team does not believe that pilotage, including boarding and disembarking, imposes stresses which would be likely to produce heart disease. On the other hand, they also feel that the mental and physical demands of the job can sometimes be quite heavy, which leaves open the possibility that persons with latent impairment of heart and blood vessels might be precipitated into obvious illness. For the most part, the stresses of pilotage, although they can be considerable, are usually of short duration unlikely to cause damage to a fit pilot.

### Indirect Workload

It was found that there were marked differences between the twelve stations at which pilots completed diaries: some do a great deal of travelling, others do relatively little; some do much more night work than others; some stations rate their pilotage acts subjectively as more difficult

than others. A very clear point is that the London District sea pilots spend a great deal of time travelling: a 'round trip', including pilotage and travel, could easily be 12 hours or more. In the case of the Harwich pilots, based on the Sunk cutter, it is possible for a man to remain aboard the cutter for several hours before actually 'shipping'. The London pilots reported less satisfaction with their working conditions than pilots in other stations. It should be noted that London stations operate simple turn rosters; this system seems to be associated with greater perceived strain than is the case with more stabilised watch systems, more regular patterns of work, and shorter pilotage acts. Disrupted sleep, and insufficient sleep, was often reported by pilots during a 24-hour 'on call' period, and less sleep when 'on-call' compared with off-duty periods was commonly mentioned by older pilots.

### Conclusion

Whilst there was no evidence that pilotage work as such entails increased health risks, the study was of limited scope and possible links between workload and pilots' physical and mental health need to be kept under review, therefore.

*Trevor Cook,*

*Birkbeck College, 30th March 1979*

## New Pilot Launch for Denmark

The Aarhus Harbour Board have commissioned a new 40 ft. pilot launch built to both Lloyds LRBC and Danish Board of Trade standards. The new launch, based on the Halmatic 40 semi-displacement hull, has been fitted out with special heating and ventilation systems to combat the harsh winter weather experienced in the Baltic area.

A Perkins Boilers heating system has been installed comprising a heat exchanger working from one engine and which is

## Coastlines

### Medical Honours

Your Honorary Medical Adviser, Dr Frank Preston, Deputy Director Medical Services, British Airways, was celebrating a "silver" and "gold" on 17th May, 1979.

The Aerospace Medical Association, holding their 50th Annual Scientific Meeting in Washington DC, has presented him with one of their principal awards—the "Walter M Boothby Award", for 1979.

Commemorating the late Dr Walter M Boothy, the award is sponsored annually by the American Aviation Insurance Agency for "outstanding research directed in the promotion of health and the prevention of disease in airline pilots".

Dr Preston, who this year completed 25 years of airline pilot medical care, has been involved in studies on sleep and shift-working in British Airways aircrew since 1968. In addition, since 1965, he has represented British Airways on the Anglo-French Aviation Medical Committee who

*(Continued from previous page)*

supplemented by an electric immersion heater operating from a shore supply. Both engines are fitted with electric immersion heaters in sumps and cooling water jackets for a pre-heating requirement, and the carpeted wheelhouse has been fitted with heated thermopane windows to prevent icing and condensation. Power for this equipment is supplied by a Dieselite AC1W 4KVA generator. The wheelhouse is also fitted with forced draught ventilation.

Fire precautions have been well satisfied; Crystic Fireguard 75 intumescent gel coat has been applied to the engine room surfaces, and the compartment is also equipped with a remotely operated Halon gas flooding system. Additionally, an engine-driven bilge and fire pump has been fitted to the starboard engine, and five loose extinguishers for different types of fire have been supplied.

Three special GRP watertight doors help protect the launch from flooding or from fire spreading.

were involved with the physiological research work on the Concorde programme.

### Presentation to Frank Berry and Keith Grant

At a small dinner party held on Tuesday, 22nd May at the Naval and Military Club, presentations were made by the Executive Committee on behalf of the members to Frank Berry and Keith Grant for their work for the UKPA as members of the Executive Committee.

For his twelve years on the Executive—seven of which as Senior Vice-President and Chairman of the Executive Committee—Frank Berry was presented with a cut glass decanter and matching set of tumblers, suitably inscribed. Keith Grant was presented with a set of pewter goblets, also inscribed to record his 12 years of service to the Association on the Executive Committee.

### Tees v. Humber

The 4th Annual Golf Match between the Tees and Humber took place in glorious sunshine at York GC, Strensall, on Friday, 8th June.

"Golfers" among our readers may have noticed that this was the same day as the semi-finals of the British Amateur Golf Championship. After much deliberation we decided to chance that none of our team would still be involved at that stage. . . . This MIGHT have been the reason why there were a couple of new faces in the teams; reserves perhaps??

The Tees, having failed to make it three in a row last year, reasserted their class on this fixture by winning twelve matches to four, so reclaiming the 'Goblin Trophy'.

The secret of our success was our ability to nullify the Humber's secret weapon—Mr X. His parents called him Brian Freeman. In golfing circles he is better known as Dick Turpin, or El Bandido, when the sun shines. You may have noticed Jack Nicklaus has been missing from the pro circuit lately. We've had him on Teesside. We disguised him; called him



Jim Towell; gave him a 20 handicap and took him to Strensall with us. . . . Dick Turpin bites the dust. Well done Jack (sorry, I meant Jim).

Thank you Humber, a great day out—as always. We're looking forward to next year already. Those pills don't seem to be working. Try increasing the dosage.

*Bill Fairbairn,  
Tees Pilots.*

## Opening of New Great Yarmouth Pilot Station

His Royal Highness The Duke of Edinburgh, Master of Trinity House, visited the new Great Yarmouth Pilot Station and performed the official opening ceremony on Friday, 15th June, 1979. The new Pilot Station at South Mission Quay, Gorleston, has been built by May, Gurney & Co. Ltd., of Trowse, Norwich, on a site leased by the Corporation of Trinity House at a nominal rental from the Great Yarmouth Port and Haven Commissioners.

The Pilot Station is the base for the 16 pilots licensed by Trinity House to pilot ships into and out of the Port of Great Yarmouth. The new building comprises a Duty Pilot office, an administration office and conference/waiting room for the pilots, accommodation for the Pilot Boat crews and a small workshop for pilot boat maintenance work and stores. The cost of the new Pilot Station is said to be around £42,000.

## New Buoyage System Moves On

March 19th saw the start of Stage III of the IALA Buoyage System 'A'. Working in close conjunction with the Northern Lighthouse Board and the Commissioners of Irish Lights, as well as with Port and Local Authorities, Trinity House has, over the past two years, been altering its buoyage to comply with System 'A', introduced by the International Association of Lighthouse Authorities in an effort to harmonise the many different buoyage systems in use in the world.

In Stages I and II, buoys in an area stretching from the Greenwich Meridian up the East Coast to the Firth of Forth have been converted. Stage III takes in the South

and West Coasts of England and Wales as well as the East Coast of Ireland and Parts of Scotland's West Coast. A total of 299 Trinity House buoys will be altered as well as those maintained by other authorities.

The task of changing buoys will occupy most of the summer but, given good weather, Trinity House hopes to see the completion of the whole of the English and Welsh coastline by August 1979. In subsequent years the waters of many other parts of the world, including the Mediterranean and Africa, are to be converted to IALA System 'A'.

The first buoy to be altered under Stage III will be the Winter Buoy off Bognor Regis, which be changed by the veteran Lighthouse tender *Patricia*.

## New Launch for Par

A new pilot vessel has just been built at Devoran by W Visick & Sons Ltd for service at Par Harbour in the Fowey Pilotage District. The design features an all-welded Corten steel chine hull with a raked stem and transom stern. This vessel will serve the two pilots at Par Harbour who between them last year, completed 2338 acts of pilotage. She will be named *Par Pilot* and will replace one of the pilots' existing boats. Specification of the new launch is: length 30 feet, beam 11 feet and draught 3 feet. She is powered by a 150 bhp Caterpillar V8 model 3208 engine giving a service speed of 10 knots, and is fitted with a Schilling rudder to facilitate her being used to assist ships to berth and unberth whilst under pilotage.

## . . . and for Thames

*Thames Pilot*, the latest addition to the Trinity House Pilotage Service, shows her paces off Gravesend as her crews familiarise themselves with their new charge. The new pilot launch, which is owned by the River Pilots' Cutter Committee, will ship and land Trinity House Channel Pilots in the lower reaches of the Thames in an area that stretches 12 miles out into the North Sea to the Sunk Lightvessel. *Thames Pilot* is a vessel of all-welded steel construction and is powered by a single Kelvin TA8 naturally aspirated 8 cylinder diesel engine capable of developing 280 SHP at 1200 RPM, giving the vessel a speed of approximately 10 knots. The vessel is fitted out with a pilots' saloon having seating for

eight. A forward cabin for the crewmen is fitted out with two settee berths with lockers underneath. She was built by James & Stowe of Brightlingsea.

The pilot launch was commissioned at a naming ceremony on Wednesday, 14th March, in the presence of the Members of the Board of Trinity House and the Channel Pilots' Committee. The Rev G Jones blessed the craft.

Trinity House pilot launches are a familiar sight in the lower reaches of the Thames and it was 465 years ago that King Henry VIII first granted the Royal Charter to Trinity House requiring them to form a Guild of Master Mariners who would be responsible for guiding ships in and out of the busy Port of London. To these men was given the privilege of 'knowing the Kings' streams and to keep that knowledge from falling into the hands of Scots and Flemings'.

Today, pilots are still made aware of the changes in aids to navigation in the Thames and Coastal waters and shifts in dangerous shoals and the peculiarities of

currents and tides call for a dedication that is not always apparent in the carrying out of work today. *Thames Pilot* will assist pilots to meet ships in the foulest of weather by day and by night.

## Comment on Compensation

After having to board his ship by walking along a wooden beam, 12 inches wide, rotting at the edges, 10 feet above the river, later that day a pilot read this comment, which we reproduced, in the 122nd Annual Report of MMSA, on pages 2-3.

"Actions pursued on behalf of individual members have met with reasonable success but we regret to say that the amounts recorded in the case of personal injuries rarely compensate for more than the pain and suffering which accompanies them. Frequently *this is because there is a high degree of contributory negligence, usually arising from the enthusiasm of the individual in the interest of the safety of the ship or the shipowner's business* in what must be acknowledged is a dangerous environment."

*(The pilot's italics.)*

*Thames Pilot undergoing trials*





## Local Secretaries

Aberdeen	...	A. F. L. Esson	...	Aberdeen Harbour Pilots, North Pier, Aberdeen
Ardrossan	...	A. Caldwell	...	13 Chapelhill Mount, Ardrossan, Ayrshire
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Belfast	...	N. C. E. McKinney	...	8 Alt-Min Avenue, Belfast 8, N. Ireland
Blyth	...	M. K. Purvis	...	4 St. Ronans Drive, Seaton Sluice, Whitley Bay, Tyne and Wear
Brixham	...	R. J. Curtis	...	"Abrigo" 20 Furzeham Park, Brixham, Devon
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Colchester	...	P. Hills	...	26 Regent Road, Brightlingsea, Essex
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Leith	...	L. M. Smith	...	64 Trinity Road, Edinburgh, 5
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Gravesend Channel	...	P. A. E. Roberts	...	Utne, Conifer Avenue, Hartley, Dartford, Kent
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Lowestoft	...	W. Craig	...	35 Hubbards Locke, Lowestoft, Suffolk
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Poole	...	M. C. Battrick	...	66 Evering Avenue, Parkstone, Poole, Dorset
Port Talbot	...	J. Parry	...	6 Hazel Close, Dan-y-Graig, Porthcawl, Glam.
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Sunderland	...	J. Patterson	...	c/o Sunderland Pilot Office, Old North Pier, Roker, Sunderland, Co. Durham
Taw and Torridge	...	V. W. Harris	...	Fernlea, Pitts Hill, Appledore, N. Devon
Teignmouth	...	S. C. Hook	...	7 Ivy Lane, Teignmouth, Devon
Tees	...	D. T. Parker	...	"Stonehenge", The Green, Low Worsall, Yarm, Cleveland TS15 9PJ
Trent	...	W. L. Smedley	...	257 Beverley Road, Kirkella, Nr. Hull, E. Yorks
Tyne	...	J. A. Hogg	...	20 Langdon Close, Preston Grange, Tynemouth, Tyne and Wear
Watchet	...	N. P. Stokes	...	2 Cottiford, Bicknoller, nr. Taunton, Somerset TA4 4LR
Wisbech	...	T. Harris	...	3 Baxter Close, Wisbech, Cambs.
Workington	...	M. Ditchburn	...	68 Loop Road North, Whitehaven, Cumberland
Yarmouth	...	D. Pearson	...	Pilot Station, Riverside Road, Gorleston-on-Sea, NR31 6P2 Norfolk