Department for Transport

MAIB

MARINE ACCIDENT INVESTIGATION BRANCH

SAFETY DIGEST

Lessons from Marine Accident Reports

No 2/2003

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MARINE ACCIDENT INVESTIGATION BRANCH

The Marine Accident Investigation Branch (MAIB) is an independent part of the Department for Transport, the Chief Inspector of Marine Accidents being responsible directly to the Secretary of State for Transport. The offices of the Branch are located at Carlton House, Carlton Place, Southampton, SO15 2DZ.

This Safety Digest draws the attention of the marine community to some of the lessons arising from investigations into recent accidents. It contains facts which have been determined up to the time of issue.

This information is published to inform the shipping and fishing industries, the pleasure craft community and the public of the general circumstances of marine accidents and to draw out the lessons to be learned. The sole purpose of the *Safety Digest* is to prevent similar accidents happening again. The content must necessarily be regarded as tentative and subject to alteration or correction if additional evidence becomes available. The articles do not assign fault or blame nor do they determine liability. The lessons often extend beyond the events of the incidents themselves to ensure the maximum value can be achieved.

The Editor, Jan Hawes, welcomes any comments or suggestions regarding this issue.

The Safety Digest and other MAIB publications are only available from the Department for Transport, and can be obtained by applying to the MAIB.

If you wish to report an accident or incident please call our 24 hour reporting line 023 8023 2527

The telephone number for general use is 023 8039 5500.

The Branch fax number is 023 8023 2459.
The e-mail address is **maib@dft.gov.uk**

Summaries (pre 1997), and Safety Digests are available on the Internet: www.maib.gov.uk

Extract from
The Merchant Shipping
(Accident Reporting and Investigation)
Regulations 1999

The fundamental purpose of investigating an accident under these Regulations is to determine its circumstances and the causes with the aim of improving the safety of life at sea and the avoidance of accidents in the future. It is not the purpose to apportion liability, nor, except so far as is necessary to achieve the fundamental purpose, to apportion blame.

INDEX

Glossary of Terms and Abbreviations

3EO	–	Third Engineer Officer
AB	–	Able Seaman
ARPA	–	Automatic Radar Plotting Aid
CO_2	–	Carbon Dioxide
CPA	–	Closest Point of Approach
GPS	–	Global Positioning System
GRP	–	Glass Reinforced Plastic
ISM	–	International Safety Management Code
OOW	–	Officer of the Watch
PLB	–	Personal Locator Beacon
RIB	–	Rigid Inflatable Boat
RNLI	–	Royal National Lifeboat Institution
Ro-Ro	–	Roll-on, Roll-off
SCBA	–	Self-Contained Breathing Apparatus
STCW	–	Standards of Training, Certification and Watchkeeping for Seafarers
TSS	–	Traffic Separation Scheme
VHF	–	Very High Frequency
VTS	–	Vessel Traffic Services

INTRODUCTION

In this edition of the *Safety Digest*, we cover a wide range of accidents and incidents. However, yet again, by far the largest number of accidents was a direct result of errors made by a lone bridge/wheelhouse watchkeeper. Lone watchkeepers in merchant ships get overloaded, particularly in shipping or coastal navigation situations. Additionally, the lone watchkeeper is much more likely to fall asleep, often with catastrophic results. It is quite apparent that the requirements for a dedicated lookout, laid down in the STCW Code Section A-VIII Part 3-1, are being widely flouted. Not only is this leading to many serious accidents and unnecessary deaths, but also officers of the watch are now being jailed as a result of an insufficient lookout. Masters and officers of the watch should demand a dedicated lookout other than in the most benign daylight situations.

Our "Noticeboard" on page 65 gives details of the newly instituted Confidential Hazardous Incident Reporting Programme (CHIRP). Its introduction in no way replaces the legal duty laid down in the Merchant Shipping (Accident Reporting and Investigation) Regulations 1999 for a master/skipper to report an accident to the MAIB. Nor does it reduce our interest in receiving details of accidents involving leisure craft, or near misses/incidents of any form. Nevertheless, I highly commend the CHIRP initiative to all seafarers. I fully understand that there will be occasions when someone reporting safety concerns will want to protect their identity. In this way, I believe that CHIRP will fulfil an important safety role.

Stephen Meyer
Chief Inspector of Marine Accidents
August 2003

Part 1 – Merchant Vessels

Single bridge watchkeeping

Once again, the single factor causing the largest number of accidents in this edition of the *Safety Digest* is the lack of a dedicated lookout. If you are complemented by a lookout, *use him*.

Time pressure

Do you have the confidence to resist time pressures to leave port with an unsafe ship? Do you question operational safety without rebuff or intimidation? Do you feel that management shares your responsibilities to ensure safety and health at sea?

If the answer is "no" to any of these, you are entitled to question the effectiveness of your safety management system! Effective implementation of the ISM Code will empower you to operate safely.

Time pressure is the enforcer of short-cuts. Masters leave port with deck cargo improperly secured and hatches left open. Irresponsible? Of course. But management is responsible to ensure that clear policies are in place and guidance is available. Such policies and guidance can empower masters and crew members to resist time pressures and ensure a safe ship.

Pilots

How do you get on with the pilot? We have found that most of you get on with each other very well. But often, some of you are confused about who is responsible for what. Consequently, communication on the bridge breaks down and navigation of the vessel becomes unsafe. The master is charged with the responsibility for the safety of the vessel; the pilot with the responsibility to assist in the navigation of the vessel in confined waters. A number of *Safety Digest* articles in this section highlight this confusion.

Design

The principle of ergonomic design is to ensure a good "fit" between people and the things they use. It is about design, which accounts for human abilities, attributes and limitations. Too often, for example, we learn of controls of winches and cranes, so positioned, that people become crushed, unseen by the operator. Alarms are not heard or seen by the victim. If you suspect that poor layout is handicapping your endeavour to act safely, report your concern. A good safety management structure will address this concern promptly and effectively.

CASE 1

Poor Lookout Costs Lives

Chemical tanker

Photograph courtesy of Fotoflite

Narrative

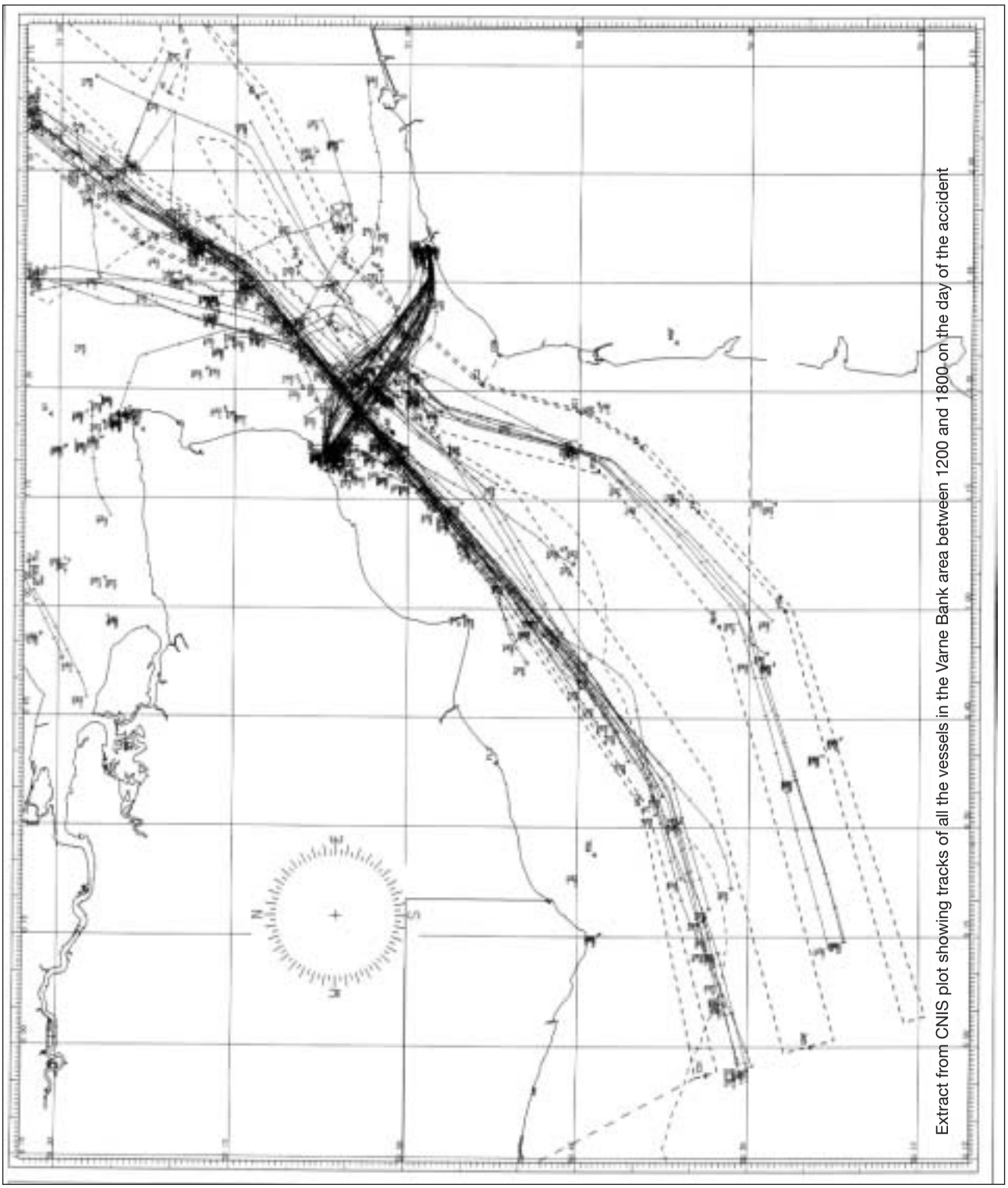
The master of a small cargo vessel lost his life when his vessel collided with a 4,600gt chemical tanker. The accident happened in the south-west lane of the Dover Strait TSS during fine weather and good visibility. Both bridges were being manned by certificated and experienced officers.

The tanker had been overhauling the cargo vessel at a relative speed of about 6 knots. The tanker was fitted with a modern integrated bridge, including two radars, an electronic chart system and an autopilot with track control system. The two vessels had been on coincident tracks for over an hour before the collision.

The collision occurred because the watchkeepers on both vessels were distracted from keeping a lookout at the critical time. Although the tanker, as the overtaking vessel, had the principal responsibility to alter course to avoid the collision, had either watchkeeper been keeping an effective lookout the collision might have been avoided.

In the preceding 13 months, three other very similar collisions occurred in the same area. However, this one was made particularly notable because the cargo vessel was holed below the waterline and quickly listed to starboard and sank.

The tanker's crew mounted a fast and credit-worthy rescue effort but, as stated above, despite their valiant endeavours, tragically the cargo vessel's master drowned. The other collisions could also just as easily have ended in tragedy.



Extract from CNIS plot showing tracks of all the vessels in the Varne Bank area between 1200 and 1800 on the day of the accident

Cargo vessel

Investigations have shown that the vast majority of vessels choose to transit the Strait towards the northern edge of the south-west lane. This causes bunching and an increased chance of close quarters situations and collisions **(see plot)**. However, the fundamental cause of this, and nearly all collisions, is poor standards of lookout.

The Lessons

1. **Poor lookout can cost lives and careers (the tanker's watchkeeper was convicted of manslaughter and was imprisoned for 12 months).**

2. **Poor lookout is inexcusable. It is fundamental to good watchkeeping practice and is essential for the avoidance of collisions.**

3. **Watchkeepers must not become distracted. They should look out of the window, as well as at navigational instruments, and should keep focussed on their key responsibility – to maintain a proper lookout.**

4. **Risk of collision is heightened when large numbers of vessels choose the same or similar tracks. When transiting the Dover Strait, or elsewhere in high-density traffic, choose a track clear of the busiest routes, and stay clear of trouble.**

CASE 2

Pushing the Limits and Getting it Wrong!

Narrative

A 2,500gt general cargo vessel was preparing to sail from a river berth. The pilot was ordered for 2100, with a latest departure time of 2147.

The pilot arrived on board at 2110. As he did so, he noticed that the vessel's cargo hatches were still open, and she had not yet refloated on the flood tide. Before the vessel could sail, it was also necessary to carry out a draught survey.

As soon as the vessel refloated, at 2130, the draught surveyor began his work, finishing 15 minutes later. On the master's insistence, the pilot agreed to sail at 2150, even though the cargo hatches were still open. This contravened the local navigation bylaws. The master assured the pilot the hatches would be closed immediately after letting go. They were not.

Owing to the lateness of sailing from the berth, the pilot found it necessary to proceed downriver at full speed so as to meet the required deadlines for adequate underkeel clearances in accordance with his passage plan.

As the vessel approached a turn in the river, about an hour after departure and, by then, on a strong ebb tide, the pilot ordered an alteration of course to negotiate the turn. Part way through the turn, he realised that not only had he started the turn too late, but also the tide was setting him on to the far bank of the river. He had no reserve engine power at his disposal to recover the situation. Shortly after, the vessel grounded.

As the tide continued to ebb, the vessel eventually settled on the bottom with a 20° list. Later, as the tide flooded, water entered an open emergency escape hatch to the engine room.

Vessel following the grounding

Fortunately, the vessel floated to an even keel before floodwater was able to reach the open cargo hatches.

Eventually, the vessel was towed to safety. Apart from superficial flood damage to her engine room, she was virtually unscathed.

The Lessons

1. **Even though the departure deadline had passed, the pilot still elected to sail. The passage plan deadlines were introduced by the competent harbour authority, and served a purpose. They should not have been exceeded. Had the pilot not found it necessary to proceed at full speed downriver, when making the turn, he would have had reserve engine power at his disposal. This might have prevented the vessel grounding.**

2. **The master had assured the pilot that the hatches would be closed immediately after letting go. They were not. This left his vessel dangerously exposed to floodwater entering. Never, ever sail with open hatches.**

   It is very fortunate indeed that floodwater didn't reach the open cargo hatches. Had it done so, a very different outcome would have ensued.

3. **You might think, at the time, that you are doing someone a favour by exceeding a deadline or by contravening a bylaw. But, as demonstrated here, this has a nasty habit of backfiring on you!**

CASE 3

High-Speed Collision in the Dover Strait – in Thick Fog

Narrative

A high-speed craft was crossing the channel in the area of the Dover Strait when she was involved in a collision with a cross-channel freight ferry. The visibility was between 50 and 150 metres maximum. The high-speed craft was carrying 148 passengers and crew, and the freight ferry was carrying 102. Fortunately, there were no injuries as a result of the collision.

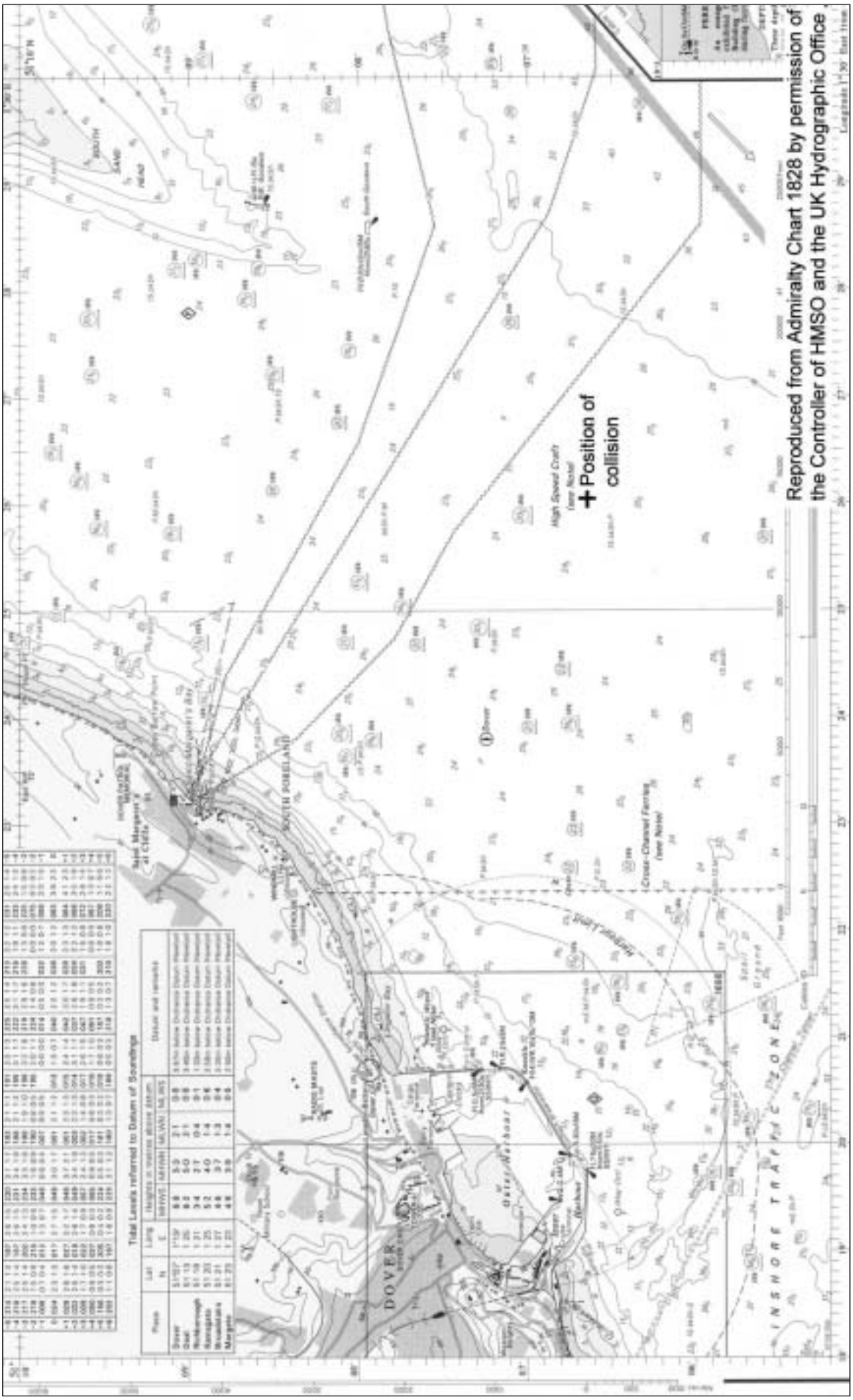
The high-speed craft, travelling at a speed of 29 knots, first detected the freight ferry travelling at a speed of 20 knots, as the latter departed Dover. Neither vessel had contemplated reducing speed to make allowances for the restricted visibility.

When the ferry had settled on course, after leaving harbour, the bridge team on the high-speed craft determined from the two on board ARPAs: her range 2 miles, CPA 3 cables to starboard and they assumed, incorrectly, a reciprocal green-green passing situation. Course and speed were maintained. Shortly after, the ferry detected the high-speed craft. Her bridge team also determined a CPA of 3 cables. Course was altered 7–10° to starboard.

When the distance between both vessels reduced to 6–7 cables, with no noticeable improvement in the CPA, in an attempt to avoid a collision, the ferry master ordered a further alteration of course by 20° to starboard.

On board the high-speed craft, when the range reduced to 4–5 cables, the echo of the ferry began to arc through 360° on the radar screen. When this happened, the master, believing the danger to be on his starboard side, altered course hard to port. Shortly after, the high-speed craft collided with the ferry's port side at a point slightly aft of amidships. Her prow made contact first, followed by her starboard wave piercer. Fortunately, as both vessels were turning away from each other, the collision was more of a 'glancing blow' than 'square on' contact.

The high-speed craft suffered substantial damage, but managed to limp back to Dover under her own power. The ferry suffered only minor damage and continued on passage.


Position of collision
Reproduced from Admiralty Chart 1828 by permission of the Controller of HMSO and the UK Hydrographic Office

The Lessons

1. **Both vessels should have been travelling at a safe speed in accordance with Rule 6 of the Collision Regulations. It is appreciated that the criteria for constituting a safe speed, especially on board high-speed craft, are open for debate. However, the prudent approach in a congested area such as the Dover Strait would be to adjust speed to reflect the shipping situation, the visibility and the stopping distance of the vessel. With a developing close quarters situation, it is evident that both vessels should have radically reduced speed.**

2. **The incorrect assumption of the high-speed craft's bridge team, that it was a green-green passing situation, probably had a bearing on their acceptance of a small CPA. However, more importantly was the growing acceptance of an "unwritten rule" between conventional and high-speed craft, whereby high-speed craft keep out of the way of all other craft. Because of this, the master assumed the ferry would stand on. However, he should have acted in accordance with Rule 19 of the Collision Regulations, by altering course to starboard or reducing speed. Either action would have resulted in the collision being avoided. Depending on this "unwritten rule" is ill advised and can, as very nearly happened in this accident, have devastating consequences.**

3. **The freight ferry should also have acted in accordance with Rule 19 of the Collision Regulations. An alteration of course by only 7 to 10° was as good as standing on. Again, this was probably done because of the "unwritten rule". The master expected the high-speed craft to keep clear. Only when he realised this was not the case, did he decide to take avoiding action. Unfortunately, the alteration of course to starboard by 20° was far too late, and was insufficient to avoid the collision.**

4. **The bridge team on board the high-speed craft should have anticipated side-lobing on the radar displays, especially when in such close proximity to other vessels. It is a common phenomenon.**

CASE 4

A Powerful Cocktail

Narrative

On board a cruise ship, a seaman responsible for cleaning dish washing machines used two different cleaning chemicals: a regular cleaning liquid containing hydrochloric acid, and chlorine for the heavily soiled parts of the machines.

On this occasion, the seaman decanted chlorine from a large drum into an unwashed container normally used for the regular cleaning liquid.

When the seaman topped up the container with water, to dilute the chlorine, a harmful vapour cloud enveloped his face. He immediately developed breathing problems, and needed oxygen before being treated ashore at the next port of call.

The Lessons

1. **Before tackling your next cleaning job, read the product label. This will include various important warnings, and will give advice about how to use it in tandem with another product. Unless you are absolutely sure you know what you are doing, never mix chemicals. Doing so could result in the release of toxic fumes, which will be all the more harmful in a confined space.**

2. **Never re-use empty containers. When empty, rinse thoroughly with water to ensure they are thoroughly cleansed, and then dispose of them sensibly. And remember to wear the appropriate protective gear.**

3. **Management and supervisors have a responsibility to ensure that those who work with chemicals are suitably trained and fully understand the associated risks. They must also check that procedures are carried out properly.**

CASE 5

Check Before you Change!

Narrative

A small cargo vessel was on a river passage. The master and a pilot were on the bridge. It was daylight, the weather was fine and the visibility was good.

At a particular point in the passage, the master switched from manual steering to autopilot. Owing to an intermittent electrical fault, the gyro compass repeater, from which the autopilot steered, was approximately 180° from true. This resulted in the autopilot applying full port helm, which rapidly turned the vessel into a number of adjacent yacht moorings.

Three yachts and their moorings were damaged during the incident.

The Lessons

1. **The master had thought it unnecessary to have the intermittent electrical fault repaired. This effectively increased the need for the repeater heading to be checked before the autopilot was engaged, which is good practice at the best of times. In the event, the master failed to check the repeater heading.**

   The avoidance of accidents relies on the relevant risks being identified and controlled. In this case, the failure of those control measures resulted in an unnecessary and potentially embarrassing collision. Maintaining equipment in an operable state, and following established procedures, can significantly reduce the risk of an accident.

2. **Although the master took immediate action in returning to manual steering and applying astern propulsion, the close proximity of the yacht moorings prevented him from recovering control of the situation in sufficient time.**

   Much advice is promulgated to the effect that autopilots should not be used in confined waters. What is meant by the term "confined" is a matter for debate, but it is clear from this case that an ability to recover control, following an unexpected failure, must be a criterion.

CASE 6

No Dedicated Lookout Means No Error Recovery!

Narrative

A tug was on passage in the south-west lane of the Dover TSS. It was dark and the visibility was moderate to good. She was exhibiting her normal steaming lights and was making about 9 knots. Her master took over the navigational watch and, for about 30 minutes, drank coffee and chatted to the lookout. The lookout then left the wheelhouse to conduct safety rounds.

A ferry was about to cross the south-west lane. She was making approximately 120° at a speed of about 11 knots, and was exhibiting her normal steaming lights. Her OOW had been plotting the tug on radar, together with a car carrier that was about to overtake on the tug's starboard side. He determined that the car carrier would pass ahead of the ferry, and expected the tug to alter course to starboard around the ferry's stern.

As the car carrier came abeam of the tug, the tug's master moved to the chart table and plotted a position on the chart. He had failed to notice the ferry's approach, which was then obscured temporarily by the overtaking vessel.

After the car carrier had crossed ahead of the ferry, the ferry's OOW altered course to starboard, still expecting the tug to take avoiding action. However, when collision became imminent, and it was apparent that the tug was taking no action, he altered course to port in a failed attempt to swing the ferry's stern clear of the tug's bow.

Both vessels sustained damage as a result of the collision, but were able to continue to their respective ports of call.

The Lessons

1. **The tug was required by the Collision Regulations to keep out of the way of the ferry. She failed to do so because her master had not detected the ferry's approach.**

   There were several factors contributing to this:

   - **Although a lookout had been assigned to the watch, he was required periodically to conduct safety rounds, thereby necessitating his absence from the wheelhouse. This was in contravention of STCW requirements.**

   - **The tug's safe manning certificate permitted a manning level of just three ratings in addition to the master and mate. This effectively encouraged unsafe working practices, which failed to take account of the heightened risks associated with high traffic density, and commonplace close passing manoeuvres within the Dover TSS.**

   - **The master's attention was focussed on the overtaking vessel, to the exclusion of other approaching traffic. In this regard, he failed to maintain a proper lookout by sight and radar.**

   - **The master was distracted by his conversation with the lookout, since he failed to detect the ferry at this time.**

   - **The master was required to plot a position on the chart. This effectively removed his ability to maintain a proper lookout.**

With no independent means of alerting him to his error, the master was denied any chance of recovering from it. The International Chamber of Shipping's *Bridge Procedures Guide* states: "Effective bridge resource and team management should eliminate the risk that an error on the part of one person could result in a dangerous situation." In the absence of any technological means, it is essential that a dedicated lookout be permanently assigned to the watch if the OOW is to stand any chance of recovering from a situation in which he has failed to detect an approaching vessel.

2. **The Collision Regulations require a vessel in doubt, to indicate that doubt, by sounding at least five short and rapid blasts on her whistle, with the option of supplementing the sound signal with a light signal of at least five short and rapid flashes. There is every possibility that sound and visual signals would have alerted the tug's master to the ferry's approach.**

Additionally, the Collision Regulations permit a stand-on vessel to take action when it becomes apparent that the give-way vessel is not taking appropriate action. They also require her to take action when collision cannot be avoided by the action of the give-way vessel alone.

In this case, the ferry's OOW initially altered course to starboard and then, immediately before impact, altered course to port in an attempt to avoid a collision. However, the prudent mariner would have reacted sooner and more decisively.

CASE 7

Collision – Ro-Ro and Fishing Vessel

Ro-ro cargo vessel

Narrative

An 8,904gt ro-ro cargo vessel was entering the approaches to a port when she was involved in a collision with a 14m fishing vessel. At the time of the collision, the ro-ro vessel was under pilotage and the fishing vessel was engaged in single-handed fishing.

While navigating the inward-bound channel, the bridge team on board the ro-ro vessel detected a white light, 2 points on the starboard bow. They assumed it to be a small stationary vessel. However, as the range decreased, her bearing hardly changed. The pilot contacted the local VTS station for further information, and was told that the target appeared to be stopped.

He then tried calling the vessel several times using VHF radio, but received no reply. Course and speed were maintained.

Only when the ro-ro cargo vessel was virtually alongside the fishing vessel, was the pilot able to detect her trawl wires leading astern, and her port navigation light. Realising a collision was imminent, he altered course hard to port, but failed to prevent the ro-ro's starboard quarter colliding with the fishing vessel's port side.

As a result of the collision, the fishing vessel flooded and foundered very quickly. Fortunately a pilot cutter rescued the single-handed fisherman.

Fishing vessel

The Lessons

1. **The immediate causes of the collision were the pilot failing to take avoiding action in sufficient time, and the fisherman failing to keep a proper lookout. The pilot had previously regularly used VHF radio for collision avoidance and, on this occasion, used it instead of altering course as required by the Rule of the Road. He had made the assumption that once contacted, the other vessel would alter course at his request, irrespective of her status. Making assumptions can lead to disaster.**

2. **Advice received from VTS, regarding navigation, should not be relied upon implicitly. It should instead be treated only as part of the overall information available at that particular time. When the bearing of the target didn't change appreciably, the bridge team should have realised the other vessel was not stationary.**

3. **Sailing single-handedly on fishing vessels is ill-advised. Manning any fishing vessel with minimal numbers of crew requires careful management to ensure the overall safety of the vessel and to ensure that her crew is not compromised. A common-sense approach about the number and composition of the crew should be adopted at all times. A minimum number of two crew on board could have significantly reduced the risk of collision.**

CASE 8

Loss of Control Results in Collision

Narrative

After completion of cargo operations at an offshore oil platform in the North Sea, a supply vessel was moving clear of the 500m safety zone.

About 50m from the platform, the master transferred engine control from joystick to manual at the aft console, but found he was unable to control port or starboard main engines. The port propeller at that time had 20° of astern pitch.

After contacting the engineer in the machinery control room, the master operated the port engine emergency stop. However, it appeared to him not to work.

In fact, the engine did stop. It went through its stop sequence, including disengagement of the clutch as the engine slowed down. But with the vessel moving astern, and with 20° astern pitch on the propeller, the shaft did not stop.

Thinking the engine hadn't stopped, the master naturally pressed the emergency stop a second time. This reset the engine controls, re-engaged the clutch, and the momentum of the turning shaft restarted the engine.

The platform control room was informed of the situation and, shortly afterwards, the vessel made contact with the spider deck of the installation. The crews on vessel and oil platform were mustered at this time.

The platform was undamaged, and the vessel sustained minor damage. Effective operation of the vessel thrusters, and the master's good seamanship, prevented extensive damage to either the ship or the platform.

On the advice of the chief engineer, the emergency stop for the port engine was then re-tried. This time, it was evident that the engine stopped, and the vessel drifted clear of the platform.

A subsequent investigation of the engine control system found that at about the time the master changed control, the power card in the port engine control unit failed. This meant that engine control reverted to the machinery control room console, although the master was unaware of this. Steering and thrusters were still operational from the bridge console, which was why the master was able to avert further damage.

The Lessons

1. **If you are unfamiliar with engine control equipment on board your vessel, mistakes are more likely to happen; usually when you least expect them. The most experienced seafarers' knowledge will certainly be tested, and their weaknesses exposed, in the event of an unexpected system default. Test your familiarity, and find out any faults, by regularly testing the main engine control operation, following clear and relevant procedures.**

2. **Whether it is a propulsion or electrical control system, masters should carefully consider the implications of changing the mode of control in hazardous areas, such as within the 500m safety zone of an installation (see also Case 5). An assessment of the environmental conditions should be taken into account, and working weather-side of an installation should be avoided, where possible. A fault in the system would afford little time to recover to avoid that collision.**

3. **Ensure that all ships' officers are familiar with the operation of the emergency stops. In this particular case, a second push of the emergency stop button unexpectedly reset the stop procedure, and the engine regained full speed, instead of stopping.**

4. **Sophisticated electronic equipment is no substitute for good seamanship which, in this case, prevented extensive damage to either the vessel or the platform!**

CASE 9

Tie Them Down

Narrative

A general cargo vessel, with 44 metre long pontoons loaded on deck, left port. The lashings securing the pontoons had been supplied and fitted by the shipper. They were later proved to be woefully inadequate.

The master had serious concerns about the lashings, but time constraints meant that his ship had to sail without delay. He had endeavoured to improve the lashing arrangement, not only with the addition of the vessel's own lashings, but also by requesting that the pontoons be welded together. His request was ignored.

The inadequate lashing arrangement became evident when the vessel sailed into heavy weather: two of the pontoons broke free and fell overboard.

The lost cargo posed an extremely serious hazard to shipping because, being black, they were very difficult to see. Therefore, while the vessel sailed for a safe port, a search for the lost cargo was carried out immediately.

The pontoons were located and towed into port. The vessel was reloaded and, this time, in accordance with the master's wishes, the pontoons were securely welded to her deck hatches.

The Lesson

1. **At the end of the day, it is the master's responsibility to ensure that his cargo is adequately secured. Any concerns must be resolved before sailing, regardless of time constraints and management pressure.**

CASE 10

Power-Operated Watertight Doors – a Human Error Nightmare?

Narrative

In the early hours of the morning, a third engineer officer on board a cruise vessel was seriously injured when a power-operated watertight door closed, trapping and crushing his arm.

The vessel had 20 power-operated watertight doors; all were closed and set on local control at the time of the accident. The local controls consisted of two pairs of ganged hydraulic levers, one set on each side of the bulkhead adjacent to the door **(see photograph)**. Each set of controls comprised two levers on the same boss, an inner, longer operating lever, and an outer, shorter locking lever. The controls were approximately waist height, and were situated on the side to which the door closed. The control levers were operated in the following manner:

- To open the door, it was necessary to release the locking lever. This caused both levers to spring to the horizontal and the door to begin to open.

- To set the door closing, the operating lever was lifted and held. This could be done at any time.

- The operating lever could be locked in the closing position by moving the locking lever out of the horizontal.

Once operated in the above way, the levers enabled hands-free opening or closing of the doors.

The accident occurred at 0100 ship's time. The 3EO, who was one of two engineer officers on watch in the engine room, was carrying out the first rounds of his watch. The precise circumstances are not known, what is known, however, is that he didn't wait for the door to fully open before setting and locking the levers to start the door closing, and then starting to pass through. Either a slight hesitation, or a momentary pause to free his boilersuit from an obstruction, delayed his progress, and his arm became trapped.

The 3EO eventually freed his arm. Severely injured, he tried to escape from the engine room through an emergency escape door, but found that he needed two hands to do so. The escape door was fitted with an interlock that necessitated a button to be depressed while the handle was turned. Faced with no alternative, the officer had to open and pass through four watertight doors to make his way back to the control room and raise the alarm.

He was treated on board, and then taken ashore by the Dover RNLI lifeboat, for hospital treatment. Despite efforts to save his arm, it eventually had to be amputated.

The accident occurred because the 3EO ignored operating instructions with which he was familiar. Fatigue had possibly affected his judgment. He had just changed his watchkeeping routine and normally would have been asleep, or preparing to sleep, at the time of the accident. Additionally, the instructions for operating the doors were posted on board in three different versions. The accepted practice was different again. This, coupled with the fact that it took up to 40 seconds to pass through the doorway in accordance with the instructions, led to them being routinely disobeyed.

The Lessons

1. **The 3EO took a short-cut; he took a risk and later bitterly regretted it. Never take short-cuts with your own or anybody else's safety.**

2. **The 3EO had just changed his watch routine from 0800 to 1200 to 1200 to 0400. He had worked a double watch (0800 to 1600) the day before the accident and, at the time of the accident (0100), would normally have been asleep or preparing to sleep. Individuals and managers must recognize that, under these or similar circumstances, reaction time and decision-making capabilities will be affected to some extent.**

3. **The vessel carried three sets of instructions for operating watertight doors; each was slightly different. One shared feature was the need to wait until the door was fully open before passing through. Had any one version of the instructions been strictly obeyed, the accident would not have occurred. Safety instructions on board a vessel should be consistent. Had there been just one set of instructions, familiar to all crew members, they would more likely have been followed.**

4. **Passing through watertight doorways, in strict compliance with instructions on many UK passenger vessels, can take 40 seconds or more. This, coupled with the fact that engineers and ratings on some vessels have to pass through many such doorways in the normal course of an engine room watch, makes the instructions liable to be routinely disobeyed. It is believed that many crew members don't wait for doors to open fully before passing through them. Safety instructions should be strictly obeyed but, whatever the circumstances, nobody should ever pass through a watertight doorway when the door is closing.**

Note: The MAIB investigated a similar, but fatal accident in 1999 when an engine room rating became trapped in a watertight door. Bearing these accidents in mind, recommendations have now been aimed at both the owner of this vessel, and the MCA, to take a fresh look at the rules and guidance for the operation of power-operated watertight doors.

CASE 11

Grounding Can Be a Drag

Narrative

Having discharged her cargo at Cattewater, in Plymouth Sound, a 3,070gt product tanker shifted to a designated anchorage in Cawsand Bay to await orders. She anchored in a position nominated by the harbour authority, in a depth of 9.6m. She used her port anchor with 4 shackles in the water, and this gave a stern swinging circle of 1.25 cables.

As an anchorage, Cawsand Bay is sheltered from all but south-east winds, and the holding ground is mainly sand and broken shells. The nearest danger to the vessel was rocks, some 4.3 cables to the north-west.

After anchoring, her position was established using radar ranges and bearings and, using the GPS receiver, a 3-cable guard zone was set. The main engine was shut down, but remained available for use within 10 minutes. An OOW kept a bridge anchor watch throughout.

The conditions on the day after she anchored gave no cause for concern, with the wind blowing from the north-east force 3 to 4. By noon the following day, it had veered to the south-east and increased to force 7. Although the anchorage was now exposed, and the conditions were less comfortable, with the ship heading into wind and pitching in the increasing swell, her anchor appeared to hold.

At about 2240 the next day, the GPS guard zone alarm sounded. The OOW confirmed by radar that the ship was moving in a north-westerly direction towards the shore. He called the master, who immediately ordered the main engine to be started, and then went straight to the bridge where he saw that the shore was uncomfortably close. He also noticed the GPS receiver displayed a speed over the ground of 1.2 knots. After ordering the OOW to go forward and heave in the anchor, the master put the main engine to full ahead just as soon as it was available. But it was too late. Within seconds,

the rudder and the propeller had struck the rocks. The time was about 2250.

The vessel remained hard aground for 10 days. She was very badly damaged and was declared a constructive total loss.

The Lessons

1. **In an anchorage exposed to deteriorating weather conditions, a vessel will remain safely at anchor so long as there is sufficient scope on the cable, and the anchor continues to bite. Usually, the more cable that is used, the better the holding power of the anchor is maintained. Mariners will readily understand, however, that in certain situations, and especially in deteriorating weather, vessels at anchor always run the risk of dragging.**

2. **Many incidents of this nature investigated by the MAIB have displayed a common feature: those on board failing to recognise what was happening until the vessel concerned had already begun to drag well outside the swinging circle. In many instances the speed, sometimes as great as 1.5 to 2 knots, was such that the time available to take corrective action was insufficient to prevent the vessel running aground on a lee shore.**

   It is imperative, therefore, that when anchored in close proximity to any hazard, or in an anchorage which has become exposed, and with a lee shore close by, that any movement outside the calculated swinging circle is detected immediately. Steps can then be taken to remedy the situation. If the position of the anchor is not accurately determined, and the swinging circle not plotted, such detection is impossible.

3. **Those charged with keeping an anchor watch must ensure that they are well placed to detect dragging as soon as it starts, even though they might have taken various precautions to prevent it. Whatever means is adopted to check the vessel's position, it must be sufficiently foolproof to give an instant warning of movement.**

   An electronic guard zone, not centred on the position of the anchor, and much larger than the swinging circle, will not do this. Too often, watchkeepers believe this means of checking their vessel's position is adequate. Experience reveals that such optimism is often misplaced. Every second counts.

4. **If dragging is detected or suspected, watchkeepers must, in addition to calling the master, be prepared to take immediate action themselves. Bringing the engine to immediate notice, preparing to let out more cable, or even letting go the second anchor are basic precautions.**

5. **In deteriorating weather conditions, the situation should be reassessed, and precautionary measures taken, to meet the additional risk of dragging. When this risk is unacceptable, masters should not hesitate to shift anchor berths, or put to sea.**

CASE 12

CO_2 Does Have its Limitations

Narrative

A 6,000gt general cargo vessel was on passage through UK coastal waters when a crewman noticed smoke coming from her single hold. She had loaded containers, crated and palletised cargo units 24 hours earlier.

The master was called to the bridge, and he immediately rang the general alarm. A couple of minutes later, the hold's smoke detection and alarm system sounded.

Members of the fire party mustered at the booby hatch to the hold. Two of them entered the hatch and were able to see flames at the aft end of the hold. They withdrew to report.

Two other members of the fire party then entered the hold, wearing SCBAs. Using fire hoses, they attempted to extinguish the fire. They were not totally successful and the men retreated.

The master decided to inject CO_2 into the hold and, at the same time, requested assistance from the coastguard.

A shore-based fire-fighting team boarded and carried out its own inspection. The fire was still evident, although small. It was then decided that difficulty of access meant the vessel needed to find a port where the hold could be opened safely.

Once in port, the hold was opened and firefighters extinguished the fire. This was about 24 hours after the fire was first detected. The fire was centred on a consignment of fibre yarn, wound on bobbins, much of which had suffered scorching damage. Little other cargo was seriously damaged by fire, although the water used to fight it had caused more widespread damage.

The Lessons

1. **Although the CO_2 was effective in containing the fire, it didn't extinguish it. This was because the fibre yarn, tightly wound on bobbins, contained air trapped in a large number of very small pockets. The CO_2 couldn't penetrate the fibre to displace this air, so the fibre was not only a fuel, but it also contained its own air supply to support the fire. This is why it smouldered.**

   CO_2 will not extinguish every fire; it relies on starving the fire of oxygen. Therefore, fires involving fuels which have oxygen trapped in them will not be put out by CO_2.

2. **The cause of ignition was not established with any certainty. However, as the fire was detected 24 hours after cargo work finished, and the hatches were closed, it is highly probable that the ignition was in some way related.**

CASE 13

Deck Officer's Leg Crushed by Gantry Crane

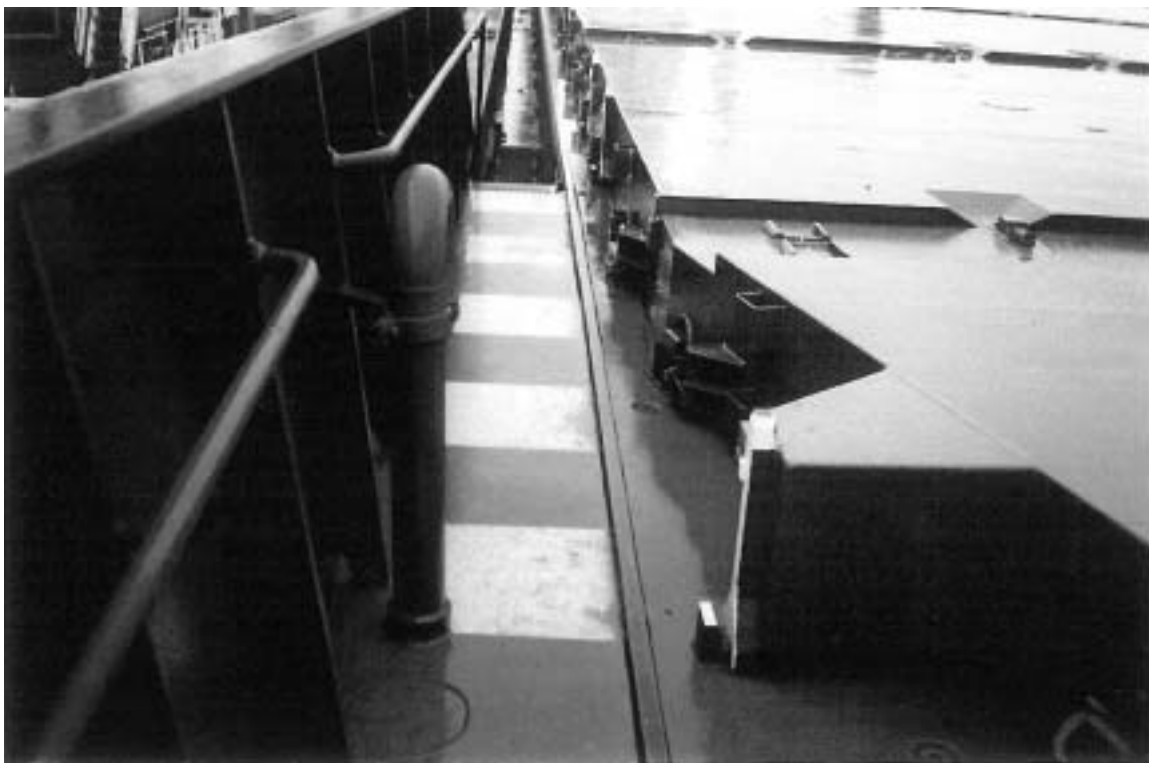
Narrative

A 2,999 single deck general cargo vessel had completed discharge at a berth in Casablanca, and her multinational crew of nine was preparing to move her portable bulkheads before loading her next cargo. Five members of the crew were involved in the operation, the chief and second officers, the bosun, a cadet and an AB. The AB was driving the gantry crane which was being used to lift and stack hatch covers to give access to the hold. The chief officer and bosun were on the starboard side, and the second officer and cadet were on the port side in the vicinity of the gantry crane.

The vessel had an all-aft superstructure and a single cargo hold with slab hatches. She was fitted with a gantry crane, which ran fore and aft along rails sited either side of the hold. The gantry crane had an audible and visual alarm fitted in a central position, which operated when the crane moved fore or aft. The audible part of the alarm was not operational at the time.

The crane driver could not see the chief officer who was standing on the forecastle deck adjacent to the crane. Neither could he easily hear shouted commands, as they were shrouded by the noise of the crane motor. Visibility to both sides was poor from the crane controls.

The chief officer had been standing in a position where there was a narrow gap between the gantry rails and the ship's side. The space was further restricted by a hand rail and an air pipe and, when the gantry crane was forward, by the access ladder to the crane **(see photographs)**. In fact, in one position, the crane's access ladder came to within 6cm of the air pipe.



View showing gap between gantry crane ladder and vent pipe

View of walkway from main deck to foc'stle head, showing air vent and hand rails

The crane was operating in a forward position, lifting a hatch cover and transporting it to land on top of a small stack of covers on No 1 hatch.

Suddenly, a cry was heard from the chief officer. The crane was stopped immediately. The chief officer's leg had become trapped and crushed between the crane and the air pipe. It was later diagnosed that he had suffered a fracture to his right femur.

The Lessons

1. **Risk assessments, required under the ISM Code, should identify those associated with crane movement, and effective measures should be implemented to limit the risks they might incur.**

2. **The chief officer had been in a potentially vulnerable place, unseen from the crane's controls. Nobody needed to stand in that position. All such areas should be "no-go" areas during crane operations.**

3. **The audible and visual alarm was designed to give warning of the crane's movement. Unfortunately it was not ideally sited to do so, and provided the chief officer of no such warning. Alarms should be carefully sited so that they are clearly heard and seen at all times in potentially dangerous areas.**

4. **The audible alarm was not operational at the time of the accident, so was of no use whatsoever. It should have either been repaired, or special measures should have been implemented to ensure that its inoperation did not put people at risk.**

CASE 14

Master Overrules Pilot and Vessel Grounds

Narrative

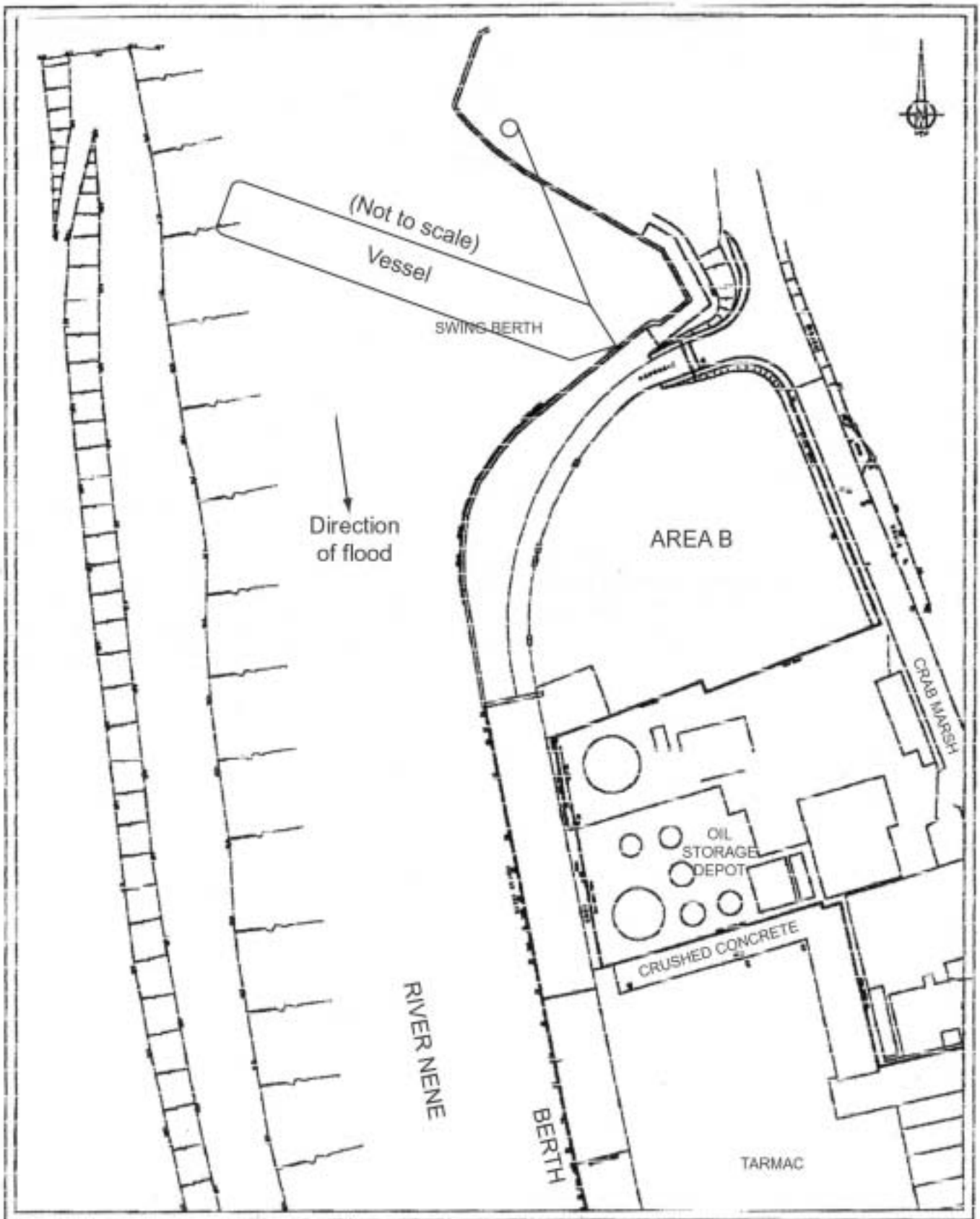
A Belize registered, 81m length dry cargo vessel was swinging in preparation to berth at Wisbech on the River Nene when she grounded and became stranded across the river **(see plan)**. The maximum length of vessel that can swing and berth at Wisbech is 83m. She was loaded with a cargo of timber.

An experienced pilot had joined the vessel as she approached the river entrance. Although she could have berthed port side to at Wisbech, and then swung on departure, the pilot chose to swing her before berthing starboard side to. During the river passage, the pilot had explained the required procedure in detail. The margins for error were very small, and crew members were standing by fore and aft to tend ropes as necessary.

The vessel approached the swinging basin under the pilot's instructions. It was just after high water but there was still an ingoing tidal stream. A port head rope was passed ashore, and the bow was turned to port into the basin. The pilot then gave several instructions involving engine movements and the mooring line, but these were countermanded by the master, resulting in the stern touching and grounding on the west bank. The pilot gave additional engine orders, designed to extricate the vessel from the situation, but these, too, were either countermanded or carried out incorrectly. The head rope parted, and the crew on deck were slow to pass out another line.

The tide was falling and the vessel was unable to refloat. She settled in the mud and remained straddled across the river during the low water period.

The next morning, the vessel was refloated with the aid of a tug, and was then able to berth and discharge her cargo as normal. Fortunately, she had suffered no damage. The fendering in the swinging basin had sustained minor damage, and some scouring had occurred on the west bank of the river, owing to the emergency engine movements.


(Not to scale)
Vessel
SWING BERTH
Direction of flood
AREA B
CRAB MARSH
OIL STORAGE DEPOT
CRUSHED CONCRETE
RIVER NENE
BERTH
TARMAC
WISBECH PORT
TURNING BASIN
Fenland District Council
PLAN
1:1000
Pl8\1

The Lessons

1. **Two years previously, a similar vessel became wedged across the same river in comparable circumstances. On that occasion, the vessel broke her back and remained blocking the river for 44 days. That accident was caused by the master ignoring the pilot's advice and taking control of the vessel without warning and discussion.**

   In both cases, the margins for error in the manoeuvre were negligible, yet the master overruled the advice of an experienced pilot at a critical moment. Having overruled the pilot once, the situation then went from bad to worse.

2. **There will always be times when, for the safety of his ship, a master feels it is necessary to overrule a pilot's advice. This should only be done after careful consideration, and only in exceptional situations. Even so, it is essential that good communication between the pilot and the master is maintained so that the whole bridge team, and those positioned at mooring stations, can continue to play their part.**

3. **The MAIB learns of many cases where a misunderstanding between the bridge and mooring teams has contributed to an accident. Where the use of anchor or mooring lines is an important feature in a shiphandling manoeuvre, the relevant crew must be prepared and be fully aware of what is required of them.**

4. **The value of good bridge team management is never more obvious than when things start to go wrong.**

CASE 15

Support Your Local Pilot!

Narrative

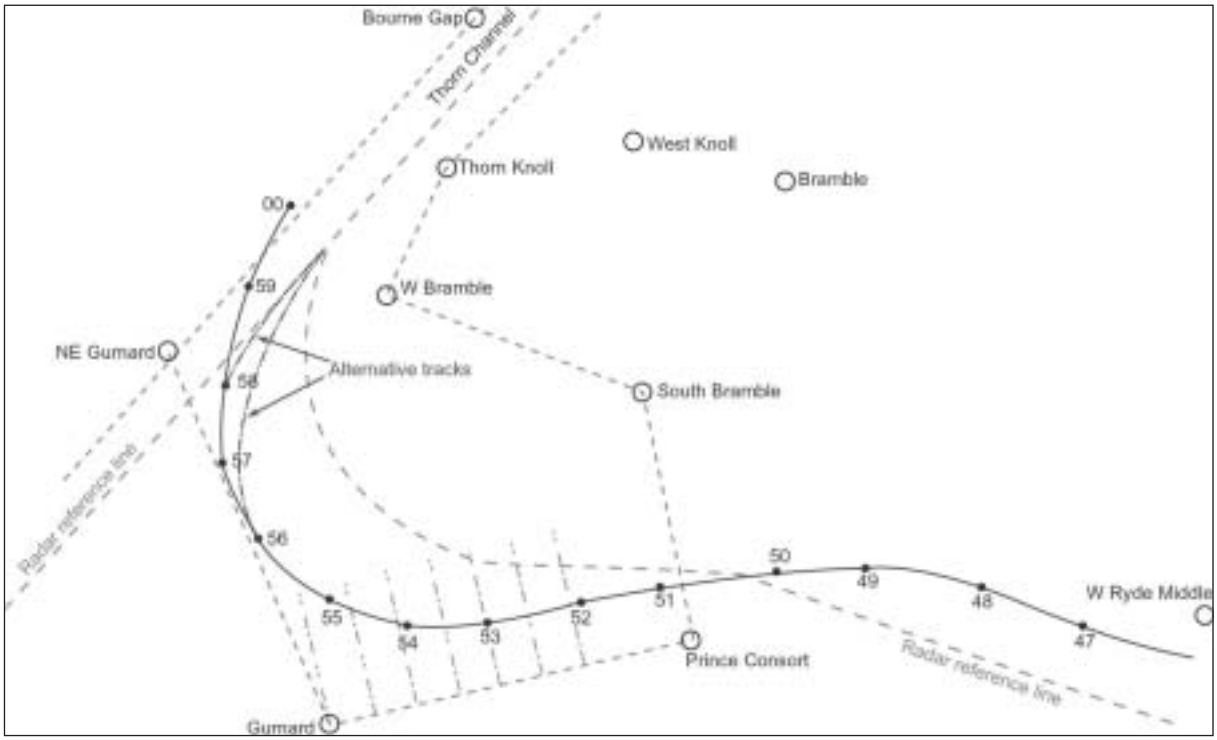
A large container ship **(see photograph)** was inbound from Rotterdam to Southampton container terminal. At 0530 the pilot boarded the ship at the Nab Tower pilot station. The pilot's and the master's passage plans were exchanged, and the ship's pilot card was given to the pilot. The passage continued along the East Solent, during which time several VHF radio conversations about restricted visibility were heard between various vessels and Southampton VTS.

By the time the ship was making her approach to Thorn Channel, the visibility had reduced to about 1.5 miles and it was starting to get light; sunrise was at 0705. The VTS officer gave the pilot a countdown from 5 to 2 cables to the Gurnard buoy. This was given so that the pilot could judge the timing of the wheel-over manoeuvre for the 141° turn into the narrow channel.

The wheel-over occurred at about 0652 and the ship began to turn. At this time, the west Bramble and north-east Gurnard buoys, which are at the entrance to the channel, could not be seen because of restricted visibility. Because the tide was flooding, the pilot took a much larger turn than that indicated by the radar reference line on the chart, to counter its effects. (The ship's passage plan had the waypoints drawn on the radar reference line, but did not take into account that the turn would be a continuous one: there were three separate rhumblines for the turn on the working and electronic charts and on the radar screens.) Various helm and engine movements were made during the turn.

When the west Bramble and north-east Gurnard buoys appeared, the pilot realised the ship was outside the intended track for the turn. Despite further helm and engine orders, she grounded at about 0700.

With the assistance of two tugs, the ship was refloated near the time of high water and she safely berthed at 1232.



Container ship grounding on edge of navigable channel

The Lessons

While there are obviously pilotage lessons to be learned, the following lessons are aimed at ships' bridge teams:

1. **In pilotage areas, the bridge team's prime role is to monitor not only the safe passage of the ship, but also the actions taken by the pilot. If those actions deviate from the ship's passage plan, the pilot should be questioned as to the reason for them, even though they may be fully justifiable. Sole reliance on the pilot's judgment, experience and execution is not enough to ensure a safe passage.**

2. **Ideally, the exchange of the pilot's and ship's passage plans, at the beginning of the pilotage act, should be full to the extent that no surprises or doubts arise at a later time during the passage.**

3. **Reports from other sources, of restricted visibility in the area, give indications of a potentially hazardous situation. Although there may be reports that the visibility has cleared in one area, it does not mean that it will not reoccur on the ship's route during the passage. These warnings should lead to further navigational contingencies being put in place, to enable potential encounters of restricted visibility to be dealt with safely.**

4. **If data for advance and transfer distances are supplied to a ship, the bridge team can make calculations for wheel-over points for a turn in advance, so that it is better prepared to monitor a pilot's actions. Another useful tool is the setting up of parallel indexing lines on the radar, whether navigating in restricted visibility or not and especially in confined waters.**

CASE 16

The End of a Drum

Photograph courtesy of Fotoflite

Narrative

A 1986 built ro-ro passenger ferry **(see photograph)** was operating on a short sea crossing during a period of poor weather conditions. Storm force winds had prevented her discharging passengers or cargo at one port. On arrival off her next port of call, the wind was at 45 knots. The master decided to stand off the port.

By 1330, the wind had moderated to between 30 and 35 knots, and the ship was able to berth at 1345. The ship had all moorings run and evened out the tension on the shore wires and ship's ropes. The engines and bow thrusters were running to maintain position while mooring. Their power was reduced gradually, but the swell continued to cause the ship to surge against the fenders.

At about 1415 weight came on to the moorings. A drum end on the port windlass, on which there was a shore wire, shattered, sending large pieces flying. One of these struck the bosun, injuring his right arm. He was taken ashore by ambulance. The vessel then discharged her passengers and freight and, at 1625, left her berth because of severe weather-induced movement alongside it.

Visual inspection of the broken parts identified no certain cause for the failure. However, several months before, new bearings were fitted to the windlass. This required the drum end to be removed, which proved very difficult and needed significant amounts of heating and jacking. After removal, the drum end was found to be cracked slightly. The contractor performing the work proposed a weld repair. This was carried out and the drum end was refitted.

Other than these weld repairs, the history of the drum end was uncertain. However, ship's staff had a firmly-held suspicion that the drum end had, at some stage, been replaced with an item which was not to the windlass manufacturer's specification.

The Lessons

No certain cause for the failure of the drum end has been found. However, there are doubts as to its material specification, compared to original equipment manufacturers, and its treatment during removal and subsequent welding repair.

To remove any future doubts as to the likely effects of excessive heating on highly stressed components, the vessel's managers now have a policy of not refitting any critical components if they have been subjected to heat during dismantling. This policy extends to any equipment, not just windlasses.

In addition, any doubts about component specification are virtually removed by always using components which comply with original specification. This is now a policy of the vessel's managers.

This drum end was of cast iron. Numerous processes are marketed for the repair of cast iron components. These include brazing, gas welding and arc welding. The claims made for each method are often heavily influenced by the experience of the individual welder. Whatever the merits of a method, it is essential to remember that of all the engineering materials that can be brazed or welded, cast iron probably requires the greatest level of skill, experience and knowledge of the materials. This expertise is not widely available so, particularly when considering stressed components, great care must be taken when selecting a repair method.

CASE 17

Good for Sightseers – Bad for Ship!

Photograph courtesy of Terry George

Narrative

A modern general cargo coaster loaded a cargo of shredded waste car plastic, and cleared the port in the late afternoon. The chief officer took the first navigational watch. At 1800, he was relieved by the master and, after having had some sleep, went back on watch at midnight. The navigation bridge, which could be lowered for passing under river bridges in European waterways, was separate from the accommodation, having an external access.

At midnight, the ship was on the same initial course for her first waypoint. The weather was good and the traffic light. There was no lookout standing watch with the chief officer, and the watch alarm was switched off.

According to the chief officer, about 3 miles from the waypoint, he got out of his chair to check the GPS. In doing so, his trouser hem became caught on the footplate control lever; he fell heavily to the deck and was knocked unconscious. Several times he regained semi-consciousness, during which time he was aware of great pain in his right leg and his head. By the time he regained consciousness, the ship was closing the shoreline.

Whatever the cause, the chief officer, as the OOW, failed to alter course at the planned waypoint. The ship continued on its previous heading until moments before grounding, when the OOW put the engine to full astern.

The change in engine pitch awoke the crew, and the master and bosun went quickly to the bridge. They were too late. The ship grounded on a rock-strewn beach, under cliffs.

The crew were all airlifted to safety, but the ship was unsalvable so was left to be broken up by the sea.

The Lessons

1. **Here is yet another grounding and subsequent total loss of a ship because the officer in charge of the watch became incapacitated while alone on watch on the bridge, with the watch alarm switched off. Whatever the cause of the OOW's failure to alter course, the presence of a lookout on the bridge would have prevented the grounding and loss of this ship.**

2. **A side issue to this accident was the poor navigational practices on board: neither the master nor the chief officer plotted any positions on the chart after the ship had left port. This was particularly unsafe, especially when the ship was approaching land and about to make a relatively narrow passage between hazardous areas. It is essential that more than one method of position fixing is used.**

Part 2 – Fishing Vessels

Risk

Fishing is a risky business! But fishermen are finding that "risky" doesn't mean "unsafe" when the risks are properly controlled.

The "risk assessment" process is establishing itself in the fishing industry, and real progress is being made in identifying hazards and taking measures to prevent accidents in the workplace. But the measures are only as good as the specific hazards they are intended to control. Increasing the hazard increases the risk, unless the controlling measure is correspondingly increased. For example, reducing the operational distance between vessels on passage requires a corresponding increase in the level of lookout.

But "risk assessment" doesn't stop there. For example, if an accident caused a fisherman to fall over the side, what would be his chances of survival? Much would depend on the sea temperature, the availability of a buoyancy aid, the ease with which he could be detected in a seaway, and the means of retrieval available to the recovery vessel. Measures such as survival suits, lifejackets, personal locator beacons and lifting equipment all need to be considered in deciding how to satisfactorily control the risk.

Lookout

Yet again, poor lookout is responsible for more of these accidents than any other single factor. See also Case 7 in the Merchant Vessel section. Fishermen can no longer depend on others to avoid them, and too many lose their livelihoods, and sometimes their lives, owing to keeping a poor lookout.

The causes of fatal accidents often attract considerable debate. The means to avoid them should do likewise!

CASE 18

Rude Awakening!

Narrative

During a fishing vessel's eight hour passage to her fishing grounds, the navigational watch was split between her four crew members.

She arrived at the grounds and began fishing. After two hauls, her starboard gear parted, so she started searching for it. After 12 hours of searching, during which time all crew members were up and about, she found it.

The crew spent a further 5 hours on deck getting the gear on board and repositioning it. A course was then set to return to port.

The crewman who was scheduled to take the final watch was expected to call the skipper when 5 miles of the passage remained. The schedule afforded him the opportunity to rest in the mess deck for a few hours before being called for watch. Unfortunately he chose not to retire to his bunk because he considered it was not worthwhile to do so.

Twenty miles from port, the crewman was called for watch. He hadn't slept for nearly 24 hours. At that time it was still dark, the vessel was on track and the weather was good. He sat down in the wheelhouse chair – and fell asleep.

The crewman's last recollection was noting the GPS showing 12 miles of the passage remaining. He was woken when the vessel grounded at a speed of 12 knots. The skipper, who was also woken, rushed to the wheelhouse, where the watch alarm was still sounding.

The vessel was refloated on the following tide, having sustained heavy damage to her hull plating.

The Lessons

1. **Once again, fatigue features as the primary cause of an accident at sea. This watchkeeper had worked a gruelling 17 hour schedule on deck, retrieving and repositioning the lost gear, and had previously managed just 4 hours' sleep during the vessel's 8 hour steam to the fishing grounds.**

   The MAIB appreciates that unforeseen events can sometimes make it necessary for fishermen to work long hours; disrupted sleep is often unavoidable. However, skippers and owners should ensure that watchkeepers are sufficiently rested for the purpose of conducting a safe navigational watch, and work patterns should therefore be arranged accordingly.

   Watchkeepers, too, must take responsibility to ensure they are fit for duty, and should take every possible opportunity to catch up on lost sleep. The watchkeeper concerned in this case could have 'put his head down' for a few hours before his watch, but chose not to do so. The dramatic photographs illustrate only too well the consequences of this ill-fated decision.

2. **Although not a mandatory requirement, fitting a watch alarm can be a very effective safety measure. However, if you are a fishing vessel owner or skipper, you are recommended to ensure that if one is fitted on board your vessel, it is loud enough to alert the watchkeeper, and is connected to a secondary back-up system that will alert the remaining crew should the watchkeeper, for whatever reason, fail to cancel the initial alarm.**

CASE 19

Steering Fault and Poor Lookout Cause Pair Trawlers to Collide

Narrative

Two pair trawlers had caught an unwanted catch of small haddocks and, having landed the last of the fish on deck, set off for a different trawling area close by. Both were increasing speed on parallel tracks about 300m apart when the skipper of one (Vessel A) went below to let his crew know the fishing plans. At about the same time, the skipper of the other vessel (Vessel B) moved away from his control position to the aft door of his wheelhouse to clear his throat. The latter skipper had just returned to his control position when he noticed Vessel A heading towards him, and seconds away from a collision. He had time only to put his engine astern before the impact.

Vessel A's skipper was just returning to his wheelhouse when the impact threw him to the deck. He picked himself up in time to note that the rudder angle indicator on his Robertson autopilot displayed 20° to starboard, and that the autopilot was not responding to manual steering commands.

The collision caused above-water damage to Vessel B's hull and shelter, and sprung planks below the water level on Vessel A. Despite attempts to control the flow of water using pumps, Vessel A began to trim by the head. A bilge alarm fitted in the fish hold gave timely warning that progressive flooding was occurring. The three crew members and the skipper were able to transfer safely to Vessel B before Vessel A capsized and sank.

Vessel A had a history of problems with the electrical contacts in her steering system. Only 36 hours before the collision, her steering gear had locked with the rudder 20° to starboard. On that occasion, the skipper had renewed the contacts and, having done so, assumed the problem would not recur for some time.

As Vessel A foundered after the collision, it has not been possible to discover, with certainty, the cause of the steering problem. It might have been the contacts, as the skipper believed, or perhaps another previously undetected fault with the system.

The Lessons

1. **When two vessels are steaming only 300m apart, an unexpected event can cause a dangerous situation to develop in a very short time. Skippers should be aware of this and, in accordance with good seamanship, should make appropriate allowances for any eventuality.**

2. **This accident could have been avoided if either vessel had been keeping a continuous vigilant lookout. Never, ever, leave a bridge unmanned at sea, even for a short time.**

3. **One of these vessels had a history of problems of the sort that probably caused the collision. This should have led to a heightened awareness of the dangers associated with passage-making in close proximity to another vessel. A proper risk assessment would have highlighted the risks and the measures necessary to counteract them.**

4. **The skipper should not have assumed that the steering problem had been fixed until it had been thoroughly tested over a period of time.**

5. **On this occasion, a well-maintained bilge alarm gave timely warning of progressive flooding.**

6. **A few of Vessel A's crew had invested in personal survival suits. Had the transfer on to Vessel B not gone smoothly, they might have had good reason to be thankful for the extra protection this clothing afforded.**

CASE 20

Quay Ladders Always Require Care

Narrative

A crew member drowned when he fell from a ladder between his fishing vessel and a quay **(see photograph)**. The sea was calm and, although it was dark, both the quay and vessel were well lit.

After 4 days of fishing for prawns off the Scottish coast, the skipper decided to land his catch and collect a new net. He radioed port to let them know his intentions.

When the vessel arrived at the harbour later that day, the quay was quiet and there was no-one around. The skipper decided to unload his catch first, before finding assistance with the new net.

The crew readied themselves for coming alongside port side to. The first crewman was at the bow, the second was ready at the stern, and the third was ready to disembark on to a quay ladder to climb up and receive lines.

The skipper approached the quay and applied stern power to check the vessel's forward motion. The third crewman stepped off the gunwale on to the quay ladder and started to climb. As he neared the top, he slipped and fell into the water between the fishing vessel and the quay.

Although the man in the water was close to the quay, he appeared unable to grab the ladder, so the skipper twice threw him a lifebuoy. On both occasions his colleague was unable to grab it. The skipper tried to move the vessel closer. Meanwhile, the first crewman entered the water to help his companion struggling in the water. Both men were eventually retrieved on to the vessel with great difficulty, and attempts were made to resuscitate the third crewman who, by that time, was unconscious.

The skipper rang the emergency services, and then manoeuvred his vessel round to some concrete steps to enable easier access for the

Vessel layout, showing significant freeboard height

Quay ladder

paramedics. Some 20 to 25 minutes later, the paramedics arrived. Confusion had arisen about the fishing vessel's precise whereabouts.

The third crewman died from drowning.

The reason for the crewman slipping off the ladder is unclear, and only possible causes can be considered. Although it complied with regulations, its ergonomic design was poor, and this might have contributed to the fall. It is not an uncommon design of ladder, and less safe harbour ladders are certainly in use around UK fishing ports.

The Lessons

1. **This accident demonstrates how quickly an incident can escalate when a personal flotation device is not worn. At first, it appeared a simple case of the crewman reaching for the relative safety of the ladder or lifebuoy. But he was battling with cold water shock, and was being weighed down by heavy, waterlogged clothing; it was too much of a struggle to stay afloat.**

   A lifejacket removes this immediate threat to survival, and provides the wearer precious time for a rescue to take place.

2. **No risk assessment had been conducted for the fishing vessel, mainly because a suitable occasion to attend the relevant course had not been arranged. Part of conducting a risk assessment is establishing emergency procedures for such events as man overboard, fire, abandoning ship and helicopter rescue. Taking the time to address your actions in emergencies may well be the difference between life and death when an incident occurs.**

3. **In a maritime emergency, the coastguard should be the first authority to be informed. Giving them clear and concise information will then enable the rescue services to be directed effectively.**

4. **Ensure that decks are kept free of oil and other substances which may cause footwear to become slippery. Fishing boats are hard working vessels, and it is impossible to keep them spotlessly clean, but this hazard to personnel must be minimised if accidents are to be avoided.**

CASE 21

Heavy Weather Fishing – Fatal Accident!

Narrative

A well-found and modern 24m twin rig stern trawler was fishing in the deep-water grounds to the west of the north Scottish coast.

A west-south-westerly force 7 to 8 wind was blowing, and there was a moderate westerly swell. During her second tow of the trip, the weather deteriorated to force 9 and the swell increased from moderate to heavy.

When the tow was complete the crew hauled the gear. The skipper was stationed in the wheelhouse and the four remaining crew members were positioned aft in preparation for "dogging-up" the trawl doors and clump weight. When hauling, it was normal practice for the vessel to be stern to the weather.

All the crew were wearing flotation jackets but none was wearing head protection, despite the fact that it was available on board, and its use was encouraged by notices posted in prominent positions.

One of the deck crew was on the port side aft, in a space which housed the hydraulic controls for the port side sweep-line winches, and the gallows for the port door.

After the trawl doors and the clump weight were disconnected, the crew began to heave on the sweeps. Suddenly and unexpectedly, a large sea broke over the vessel's port stern. Its force swept the crew member off his feet and, it is believed, threw him hard against the port trawl door. He fell, and his head became trapped between it and the ship's rail as the vessel rolled and then returned to upright.

The crew member suffered severe crush injuries to the back and front of his head. They were fatal.

The remainder of the crew, who were also positioned aft, only just managed to hang on by grabbing hold of the nearest piece of superstructure. The force of the sea crashing on board, and the pitch and heave of the vessel, parted all four 28mm sweep lines.

The skipper had carried out an assessment of the risks when the vessel was new, 18 months earlier. He hadn't involved the crew. Since then, the risk assessment had not been revisited.

The Lessons

1. **Fishing in extreme weather conditions is fraught with danger, but sometimes commercial pressures will influence a skipper's judgment. Seeing the worsening weather, the skipper would have been wise to have hauled the gear on board long before conditions deteriorated to such an extent. A *haul* might have been lost, but a *life* might have been saved.**

2. **When hauling in stern trawlers, especially in poor weather conditions, always endeavour to haul the fishing gear head-to-weather. This will afford the crew a degree of protection.**

3. **Whenever working on deck, especially in an exposed area, ensure the correct personal protective equipment is worn at all times. We cannot be sure that safety headgear would have made any difference in this instance, nevertheless, it can save lives.**

4. **In this particular case, a completed risk assessment failed to prevent the accident. All fishermen should take an active part in the risk assessment process on board their particular vessel, and should ensure that identified control measures are fully implemented.**

CASES 22/23

Lookout! – Unfortunately Not

CASE 22

Narrative

After a night's fishing, a small prawn trawler with two crew on board headed off to return to port to land her catch; speed was 7 knots and visibility was between 1 and 1.5 miles. Ahead, three other fishing vessels were seen both visually and by radar at a distance of between 0.5 and 0.75 miles. All were going faster than 7 knots, and appeared to be heading for the same harbour.

Later in the passage, when the skipper adjusted the radar display from the 1.5 miles to the 0.75 mile range scale and, at the same time, looked through the wheelhouse windows, the three other vessels were no longer visible. The skipper then left the wheelhouse to assist the deckhand who was working the fish under the shelter. From there, the view ahead was extremely restricted. Although he returned to a position outside the wheelhouse door every 3 to 4 minutes, to view the radar display, no contacts were detected. From that position, the skipper could clearly see the radar display, but could not look ahead through the wheelhouse windows.

Soon after the skipper returned to the shelter on about the fourth occasion, and with the vessel no more than 0.75 mile from the harbour, the trawler collided with another fishing vessel, which had stopped in the water to work her catch. The other vessel began taking on water; her two crew were evacuated. The vessel was taken under tow, but sank before reaching safety.

CASE 23

Narrative

A 21m wooden stern trawler completed hauling and was heading back to port, which was about 12 miles away.

The skipper was in the wheelhouse, and the crew were working the catch below on the shelter deck. The vessel was heading straight into the low, bright winter sun, which reflected off the calm water and, although visibility was good, it was very difficult to see ahead. Also, the bow was 30cm higher than the skipper's height of eye, and blocked the view directly ahead. The radar was on the 3-mile range scale, and two vessels had been detected early in the passage, both ahead of the trawler and heading in the same direction.

About 15 minutes after course had been adjusted by several degrees, to give a wider berth to a small island around which smaller boats were known to work, two deckhands went on to the whaleback in front of the wheelhouse and began washing down the deck. Soon after, the skipper thought he saw a mast, or similar, directly ahead. He adjusted the autopilot to alter about 45° to port. At the same time, the hands on deck shouted that there was a boat ahead.

The engine was quickly put astern, but it was too late to prevent the trawler colliding with a 10m GRP scallop dredger.

The scallop dredger had been stopped in the water for about 10 minutes before the collision while she hauled her gear. The crew of two had seen vessels in the distance when they initially stopped, but none had caused them any concern. They didn't realise the trawler was rapidly bearing down on them until seconds before the collision. When they did, they ran into the wheelhouse and put the engine astern. Unfortunately, they were too late. The trawler's stem collided with the dredger's port shoulder; the dredger quickly rolled to starboard and capsized in one movement, trapping the crew inside the wheelhouse. The skipper managed to swim out after a few seconds, but the deckhand remained in the wheelhouse considerably longer, before he, too, managed to swim clear.

Note vessel's high bow

After the collision, the trawler manoeuvred alongside the capsized dredger, and quickly passed a lifebuoy and a line to the men in the water. The dredger's crew were then hauled on board using a line from the power block, after first being assisted in the water by one of the trawler's deckhands, who was dressed in a survival suit. Both men from the dredger needed hospital treatment.

The Lessons (both cases)

1. **When two vessels are working close to each other, and neither is keeping an effective lookout, the only thing that stops them from colliding is luck. Fishing is a risky enough business without leaving things to chance. Keep a good lookout at all times, even when stopped, and never assume that the vessel approaching has seen you or will take any action to avoid you.**

2. **The visibility ahead from the wheelhouse on some fishing vessels is not ideal, notably on those where shelters have been added or additional fixtures installed. Not having a clear view ahead obviously increases the possibility of not seeing other vessels, particularly small ones. When this is the case, precautions, such as posting a lookout, frequent alterations of course, and using radar guard zone alarms should be considered. If a vessel ahead is stationary and not seen, there is every chance you will hit her!**

3. **Wheelhouses on smaller vessels rarely have the luxury of tinted windows or fancy blinds to help watchkeepers maintain an effective visual lookout on bright, sunny days. Using sunglasses instead, however, is not daft; it's common-sense. They are a remarkably simple but effective piece of equipment – just remember to take them off when you look at the radar!**

4. **In perfect conditions, even the smallest of boats could expect to be detected by a vigilant watchkeeper using a well-tuned radar. Sadly, sea conditions are rarely perfect, and watchkeepers and radars are of varying standards in all types of vessel. In smaller vessels, particularly those made of wood or GRP, having a radar reflector fitted can only improve your chances of being seen on radar. Being seen is not a guarantee of being safe, but it certainly helps.**

5. **When rescuing a person from the water, getting them on board can be extremely difficult. Few people actually appreciate the weight of an incapacitated person being lifted from the sea until they have physically tried it themselves. It is not an easy task, and unless the method of recovering people from the water has been considered and practised, the outcome could be tragic. Don't leave it to chance, think how you would recover somebody from the water in your vessel, then make sure you can.**

6. **The scallop dredger crew mentioned in Case 23 are alive and well today, owing to the commendable efforts, and quick thinking, of the trawler crew.**

CASE 24

Perished in the Darkness

Narrative

A 16 metre long wooden fishing vessel left her home port in western Scotland at 0530. She made passage to fishing grounds where she carried out a succession of trawls using scallop dredging gear. The last trawl was completed at about 2155 hours, and the scallops were landed on deck before the vessel began a 10-minute passage to a local anchorage position.

The weather was calm and the visibility good in fading light.

As the vessel headed towards the anchorage, the skipper was in the wheelhouse and the two crew members – one a 17-year old – were working on deck. They sorted the catch, maintained the dredges and prepared to anchor the vessel. The starboard dredge gear was to be used for this purpose.

At 2210, the skipper emerged from the wheelhouse and noticed that the 17 year old was missing. A search of the small vessel proved unsuccessful, so she was turned, to retrace her track. The skipper and remaining crew member searched the surface of the water, but couldn't see their missing colleague. A few minutes later, they called the coastguard and a full-scale search of the area got underway.

The young man was never seen again.

The cause of the man overboard has not been determined with certainty, but the MAIB considers it likely that it happened while the crew member was leaning over the side to tighten bolts on the dredge gear. He had not been wearing a lifejacket or safety harness, and the bulwark height was very low, less than 37cms **(see photograph)**. The vessel had been exempted from compliance with the minimum bulwark

Fishing vessel's deck

height rules contained in the Fishing Vessel (Safety Provision) Rules 1975 owing to her age, and compliance would have entailed major modification.

The Lessons

1. **Owners of elderly vessels with bulwark/guard-rail heights lower than that specified by modern rules must, by means of a risk assessment, consider whether they are providing a safe working platform for their crew. If it is determined that there is a risk of personnel falling over the side, control measures, such as wearing safety harnesses and/or lifejackets, must be provided. The requirement to carry out risk assessments is included in the Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997 (see MGN 20 (M+F)). The requirement to provide suitable lifejackets is included in the Merchant Shipping and Fishing Vessels (Personal Protective Equipment) Regulations 1999 (see MSN 1731 (M+F)).**

2. **The MAIB has, on a number of previous occasions, recommended the wearing of lifejackets on the open deck of fishing vessels – even in seemingly benign conditions. Had this young 17-year old lad been wearing one, there is a very good chance that his life could have been saved.**

3. **The fading light meant that the rescue services and other search craft were unable to locate the young man in the water. A personal locator beacon (PLB) might just have made the difference, and he might have been seen and rescued.**

   Following this terrible tragedy, the owner of the fishing vessel provided his crew with PLBs. If you own a fishing vessel, you should consider doing the same thing and, better still, ensure your crew wear inflatable lifejackets at all times.

Part 3 – Leisure Craft

A quick perusal of the previous sections will have demonstrated the large number of accidents that have been caused by the lack of an adequate lookout. This is lamentable, and we are doing what we can about the problem. However, leisure craft users must accept that for many – inexcusable – reasons, ships often fail to see small leisure craft. In the end, your safety is the responsibility of your skipper. There are two things you can do to increase your own safety at sea:

1. Leisure craft, even large yachts, are notoriously difficult to spot from a larger vessel, either by eye or by radar. The height of eye and radar aerial means a yacht is viewed against the sea, not the horizon. A good radar reflector is key to ensuring a better radar echo, but little has been done to improve the chances of visual detection. White hull and white sails do not stand out against white water. I would be very keen to see the yachting community address this issue.
2. Keeping a good watch yourself, and taking early avoiding action if it appears you have not been seen. Remember Rule 17(ii) states: "*The [stand-on] vessel may take action to avoid collision by her manoeuvre alone, as soon as it becomes apparent to her that the vessel required to keep out of the way is not taking appropriate action in compliance with these Rules*".

Case 26 is a very sad tale. Until they have had to deal with a man overboard, most mariners totally underestimate the difficulty of recovering a person from the water, even if that person is conscious, light and strong and the conditions are benign. And when you have a man overboard for real, the circumstances are rarely so advantageous, with panic, shock and fear always acting against you. Please plan how you would recover someone from the water. As we point out in this Case, there are simple, light and relatively cheap systems on the market that are suitable for leisure craft of all sizes.

CASE 25

The Perception of Risk

Narrative

An 11 metre yacht was being sailed single-handed on a dead run with a boom-preventer rigged off the west of Scotland. The skipper saw a small local ro-ro ferry leaving harbour some 1.5 miles to starboard. Aware that a close-quarters situation was developing, the skipper stood on as she was under sail and the ferry could not have been considered as "restricted in her ability to manoeuvre".

The yacht skipper became concerned when the ferry appeared to be maintaining a collision course. In the event, the ferry altered course to port and passed about 30m astern of the yacht. In a report sent to the MAIB, it was clear that the yacht skipper felt that the ferry had taken an unnecessary risk and did not demonstrate the intention to take avoiding action until very late.

The version of events given by the ferry skipper was rather different. He did not feel that any hazardous incident had taken place, and considered that the close distance between the vessels was not unusual in waters that were often busy, especially during the summer. In particular, he was confident that the manoeuvring characteristics of the ferry meant that avoiding action could be taken in a very short distance, should the need arise.

The Lessons

1. **The give-way vessel (in this case the ferry) should take early and positive avoiding action in accordance with Rule 8 of the Colregs. The ferry skipper's confidence in his vessel's abilities could not be shared with the yacht, which clearly felt threatened. A good seaman should always make clear to the other vessel what his intentions are.**

2. **Although in this case the yacht should not and did not have to alter course, when sailing single-handed in confined waters, consideration should be given to the length of time needed if you have no alternative but to do so. Boom-preventers, and other arrangements which constrict your ability to alter course quickly to take avoiding action, should only be rigged if they can be de-rigged within seconds. A boom preventer led forward to a block and then aft to the cockpit with a long free-running line might be one solution.**

CASE 26

Helmsman Dies After Recovery Attempts Fail

A 10.1m sailing yacht, with a crew of four, left their home port early one Sunday morning with the intention of sailing to Ireland. The wind was south-westerly force 5 and they motorsailed for about two hours, with the wind on the port bow, without incident. A new weather forecast was received that alerted them to very rough conditions later in their planned passage. The decision was made to turn round and head for home.

The double-reefed mainsail was left up and sheeted in, and the yacht was motorsailed back on a reciprocal course. When within sight of the port entrance, a large wave caught the yacht's starboard quarter, and pitched the helmsman forward against the wheel and automatic steering equipment. This caused the yacht to broach, whereupon she was hit by a second wave which flooded the cockpit and caused substantial damage to the spray dodger. The yacht was heeled to 70–80°, during which time the water that was in the cockpit poured over the side, carrying the helmsman overboard. The yacht quickly righted herself, and the owner immediately initiated manoverboard procedures.

A dan buoy was launched, together with an 'Oscar' type life sling on a long floating line. One of the crew made a "Mayday" call. The man in the water was conscious and responded to calls from the yacht. He had not been wearing a safety harness, but was wearing a waterproof jacket with built-in buoyancy. The yacht circled the man towing the life sling.

The man reached the floating line, but instead of following it back to the sling, he tried to haul himself towards the yacht. He found the line too thin and slippery for this purpose but, in time, the yacht managed to manoeuvre alongside him. He made his way to the transom, where attempts were made to bring him back on board. The skipper and crew were unable to lift him bodily, and with no harness or other mechanism for attaching a line, they could not winch him on board.

By this time, the wind had increased to force 6 to 7 and the yacht had been set north-west on a strong spring tide into a well-known tidal race. Sea conditions became substantially worse, with steep confused waves of 6–7 metres. This hindered the attempts to recover the man, and the motion of the yacht in these conditions meant that his head was frequently being ducked under the water. The skipper ordered the liferaft to be launched so that they might be able to support the lower part of the man's body and aid his recovery.

The liferaft was successfully deployed with another crew member on board. However, it is thought that at this point the man in the water suffered a heart attack, because his condition changed rapidly and he let go of the yacht. The same recovery manoeuvre was tried again, this time with the assistance of the liferaft in the water. However, the liferaft broke away and drifted free.

A coastguard helicopter recovered the man, and he was evacuated to hospital, where he was confirmed dead. The lifeboat crew, who had come to assist, found the crew member in the liferaft to be suffering from hypothermia. He, too, was airlifted to hospital. He made a full recovery.

The yacht's owner and his wife were able to return to port under their own power.

The Lessons

1. **This tragic accident emphasises once again the importance of wearing a safety harness and clipping on. The crew had not perceived any significant risk as they returned to their home port on a brisk but sunny morning. The fact that the helmsman had not been wearing a harness or conventional lifejacket made the job of those trying to recover him far more difficult because there were no lifting rings, webbing, or straps on which to secure a line.**

2. **The instinct of the man overboard when he reached the life sling line might have been to use it to haul himself back to the yacht as soon as possible. He might have been better served to have followed the line back to the sling, which, once placed over his head and shoulders, would have made his recovery easier.**

3. **Recovering a man overboard to a vessel with even a relatively small freeboard is very difficult in the most benign conditions. The attempts at recovery were hindered by the sea state and low water temperature, which would have quickly reduced the extent to which the man in the water could help himself.**

   All yachtsmen need to work out how they would recover a man overboard in adverse conditions. There is now simple, light and relatively cheap equipment on the market to recover people from the water.

Footnote

The owner was particularly struck by the difficulties he experienced recovering the man overboard, and is taking steps to promote a simple retrieval device of his own design.

MAIB NOTICEBOARD

The CHIRP Charitable Trust

THE CONFIDENTIAL HAZARDOUS INCIDENT REPORTING PROGRAMME

WHAT IS CHIRP?

An independent confidential reporting programme for people employed or having an active interest in the maritime industry. CHIRP's primary purpose is to represent safety related issues to the relevant organisation(s) without revealing the identity of the reporter. CHIRP is not intended to be a "whistle blowing" programme.

WHO CAN REPORT?

Anyone engaged in, benefiting from or observing maritime activities can submit reports, in confidence, to CHIRP.

HOW DO I REPORT?

A standard report form appears on the reverse of this sheet. It may be used in framing a report. Reports may also be made by letter or facsimile or by e-mail*; telephoned reports are also acceptable and we encourage these to be supported by a written account subsequently to provide fuller details.

WHAT DO I REPORT?

A HAZARDOUS INCIDENT = AN EVENT INVOLVING A REAL OR POTENTIAL EXPOSURE TO INJURY, DANGER OR LOSS, AFFECTING:

- ✓ Yourself
- ✓ Other people
- ✓ Your organisation
- ✓ Other organisations you deal with

INCIDENTS/EVENTS CAN INCLUDE:

- ✓ Errors
- ✓ Individual performance
- ✓ Operating/Maintenance/Support procedures
- ✓ Regulatory aspects
- ✓ Unsafe practices

WHAT DO I NOT REPORT?

- × Incidents or events with no safety content
- × Issues involving conflicts of personalities
- × Industrial relations and/or terms and conditions of employment problems

WHEN DO I REPORT?

- ✓ When you are concerned to protect your identity (please note that anonymous reports are **not** accepted)
- ✓ When you wish others to benefit from an important "Lesson Learned"
- ✓ When other reporting procedures are not appropriate or are not available
- ✓ When you have exhausted company/regulatory reporting procedures without the issue having been addressed

*CHIRP does not recommend the use of non-encrypted e-mail systems for submitting sensitive information.

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MAIB NOTICEBOARD

MIR.01.07.03

MARITIME INCIDENT REPORT

NAME:

ADDRESS:

POST CODE: TEL:

DO YOU HAVE A PREFERRED DATE AND/OR METHOD FOR CHIRP TO CONTACT YOU?:-

1. THIS REPORT WILL ONLY BE SEEN BY CHIRP STAFF.
2. YOUR PERSONAL DETAILS ARE REQUIRED ONLY TO ENABLE US TO CONTACT YOU FOR FURTHER DETAILS ABOUT ANY PART OF YOUR REPORT.
3. YOU WILL RECEIVE AN ACKNOWLEDGEMENT AS SOON AS POSSIBLE.
4. THIS SECTION OF THE REPORT FORM WILL BE RETURNED TO YOU.

NO RECORD OF YOUR NAME AND ADDRESS WILL BE KEPT. THE REPORT WILL NOT BE USED WITHOUT YOUR APPROVAL.

PLEASE COMPLETHE **RELEVANT** INFORMATION ABOUT THE EVENT/SITUATION

YOURSELF - CREW POSITION				THE INCIDENT			
CAPTAIN ☐	NAVIGATING OFFICER ☐			DATE OF OCCURRENCE		TIME	(LOCAL/GMT)
CHIEF ENGINEER ☐	ENGINEER OFFICER ☐			LOCATION:			
DECK RATING ☐	ENGINE RATING ☐			AT SEA ☐		DAY ☐	NIGHT ☐
OTHER (SPECIFY)				IN PORT ☐		HOURS ON DUTY BEFORE INCIDENT	
THE VESSEL				**TYPE OF VOYAGE**		**TYPE OF OPERATION**	
TYPE (TANKER, DRY CARGO, ETC)				OCEAN PASSAGE ☐	COASTAL ☐	COMMERCIAL TRANSPORT ☐	OFFSHORE ☐
YEAR OF BUILD / GRT				INLAND WATERWAY ☐	OTHER ☐	FISHING ☐	LEISURE ☐
FLAG / CLASS							
EXPERIENCE / QUALIFICATION				**WEATHER**		**VOYAGE PHASE**	
TOTAL YEARS	YRS			WIND FORCE	DIRECTION	PRE-DEPARTURE ☐	ARRIVAL/ PILOTAGE ☐
YEARS ON TYPE	YRS			SEA HEIGHT	DIRECTION	UNMOORING ☐	MOORING ☐
CERTIFICATE GRADE				SWELL HEIGHT	DIRECTION	DEPARTURE/ PILOTAGE ☐	LOADING ☐
PEC ☐ YES	☐ NO ☐ NA			VISIBILITY	RAIN ☐	TRANSIT ☐	DISCHARGING ☐
OTHER QUALIFICATIONS:				FOG ☐	SNOW ☐	PRE-ARRIVAL ☐	OTHER (SPECIFY IN TEXT) ☐
THE COMPANY							
NAME OF COMPANY:						TEL:	
DESIGNATED PERSON ASHORE (OR CONTACT PERSON)						FAX:	

ACCOUNT OF EVENT - (PLEASE DESCRIBE THE EVENT, WHY IT RESULTED OR COULD HAVE RESULTED IN AN INCIDENT AND WHAT MIGHT BE DONE TO PREVENT IT HAPPENING AGAIN. PLEASE CONTINUE ON ADDITIONAL SHEETS IF NECESSARY)

PLEASE PLACE THE COMPLETED REPORT FORM, WITH ADDITIONAL PAGES IF REQUIRED, IN A SEALED ENVELOPE (no stamp required) AND SEND TO:

CHIRP • FREEPOST (GI3439) • Building Y20E • Room G15 • Cody Technology Park • Ively Road • Farnborough • Hampshire • GU14 0BR • UK

Confidential Tel (24 hrs): +44 (0) 1252 393348 or **Free***fone* (UK only) 0808 100 3237 and Confidential Fax: +44 (0) 1252 394290

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Report forms are also available on the CHIRP website: **www.chirp.co.uk**

APPENDIX A

Preliminary examinations started in the period 01/03/03 – 30/06/03

A preliminary examination identifies the causes and circumstances of an accident to see if it meets the criteria required to warrant an investigation, which will culminate in a publicly available report.

Date of Accident	Name of Vessel	Type of Vessel	Flag	Size	Type of Accident
07/03/03	*Boy Ritchie*	Fishing vessel	UK	16.79	Acc. to persons
13/03/03	*Solway Hunter*	Fishing vessel	UK	4.61	Missing vessel
22/03/03	*RMS Mulheim*	General cargo	ABB	1846	Grounding
20/04/03	*Lephreeto* *Marie Lycium*	Fishing vessel Container	UK ABB	191.13 40306	Collision Collision
17/05/03	*Neptune*	Fishing vessel	UK	255	Flooding/foundering
06/06/03	*Diana* *Santa Vitoria*	Fishing vessel Tanker	UK Panama	23.80 4003	Collision
29/06/03	*Jambo*	General cargo	Cyprus	1990	Grounding

(ABB+ Antigua and Barbuda)

Investigations started in the period 01/03/03 – 30/06/03

Date of Accident	Name of Vessel	Type of Vessel	Flag	Size	Type of Accident
11/03/03	*Claymore*	ro-ro passenger	UK	1631	Machinery failure
18/04/03	*Pride of Provence*	ro-ro dry cargo	UK	28,559	Contact
28/05/03	*Wakhuna* *P&O Nedlloyd Vespucci*	yacht Dry cargo	UK Liberia	— 2,000	Collision

APPENDIX B

Reports issued in 2003

Ash/Dutch Aquamarine – collision between mv *Ash* and mv *Dutch Aquamarine* in the south-west lane of the Dover Strait TSS, with the loss of one life on 9 October 2001
Published 20 March

Diamant/Northern Merchant – collision between vessels 3 miles SE of Dover on 6 January 2002
Published 4 April

Flamingo – capsize of fishing vessel east of Harwich on 7 July 2002
Published 12 June

Kodima – cargo shift, abandonment, and grounding of mv *Kodima* in the English Channel 1 February 2002
Published 21 January

Maria H –vessel striking the Keadby railway bridge on 29 May 2002
Published 28 March

Norsea – fire in the aft engine room on 2 September 2002
Published 30 June

Ocean Star – failure of a warp block on board the UK registered fishing vessel north of the Shetland Islands, resulting in one fatality on 26 November 2001
Published 13 May

Osprey – fatal accident to a man overboard from the fishing vessel *Osprey* in Lochinver Harbour on 20 April 2002
Published 3 February

Portsmouth Express – wash wave incident off East Cowes on 18 July 2002
Published 3 June

Pride of Bath – investigation of a barbecue fire in the galley of *Pride of Bath* on the River Avon, Bath, 20 July 2002
Published 25 February

Pride of the Dart – grounding of the class VI passenger vessel on Mew Stone rocks near the entrance to the River Dart on 28 June 2002
Published 30 April

QE2 – flooding of aft engine room of passenger cruise ship *QE2* on 21/22 May 2002
Published 31 March

QE2 – escape of steam and hot water, resulting in one fatality, on 23 June 2002
Published 8 July

Radiant – capsize and foundering of *Radiant* PD298 about 45 miles north-west of the Isle of Lewis, with the loss of one life on 10 April 2002
Published 24 January

Solway Harvester – summary report on investigation of the capsize and sinking 11 miles east of the Isle of Man on 11 January 2000, with the loss of 7 lives
Published 13 June

Stena Explorer – fire on board HSS *Stena Explorer* entering Holyhead, 20 September 2001
Published 17 February

Tullaghmurry Lass – sinking of fishing vessel *Tullaghmurry Lass*, with loss of three lives, in the Irish Sea on 14 February 2002
Published 3 February

Safety Digest 1/2003 Published April 2003

Annual Report 2002 Published June 2003

A full list of all publications available from the MAIB can be found on our website at **www.maib.gov.uk**