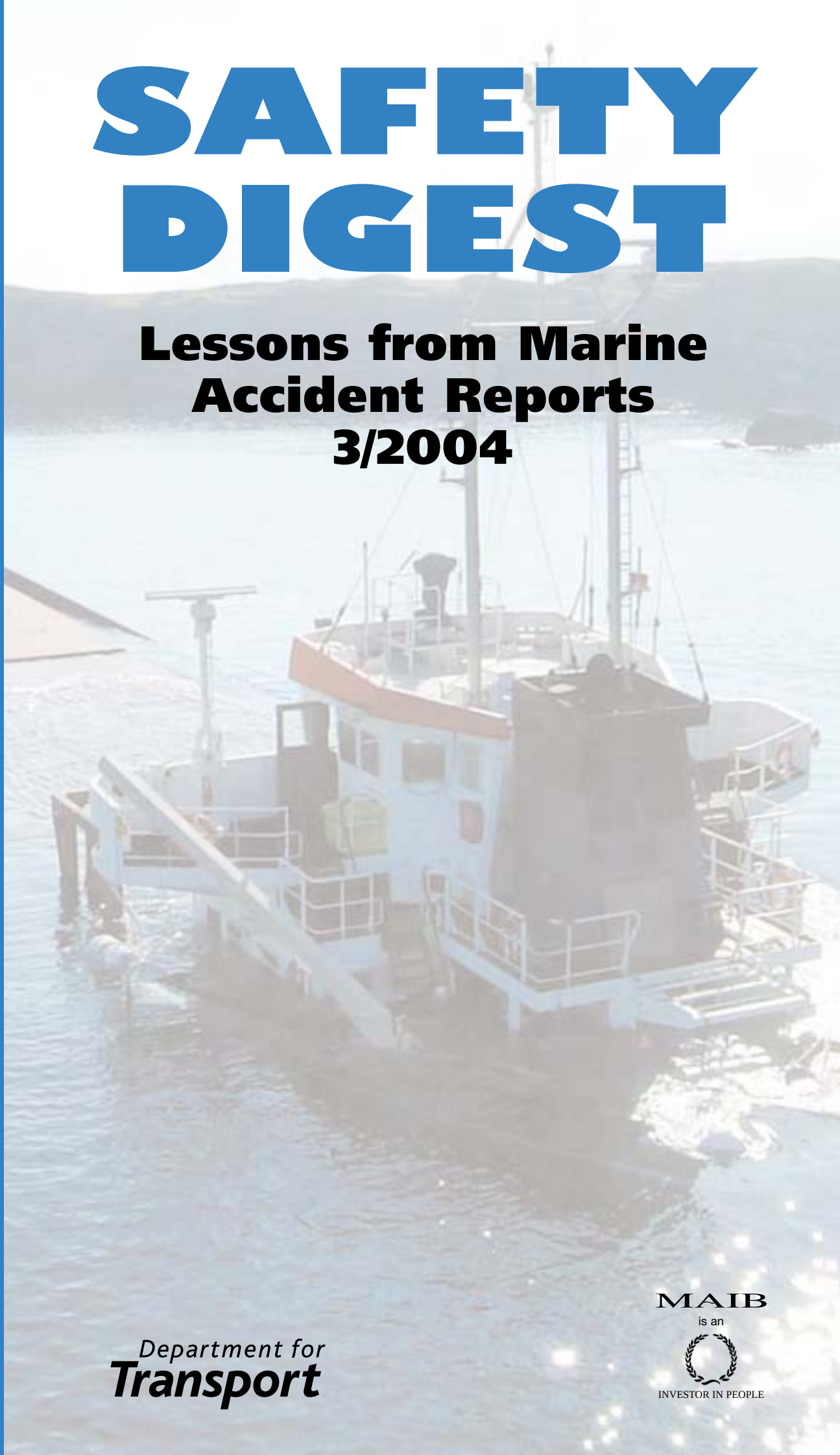
MAIB

MARINE ACCIDENT INVESTIGATION BRANCH

SAFETY DIGEST

Lessons from Marine Accident Reports 3/2004



Department for Transport

MAIB is an INVESTOR IN PEOPLE

Department for Transport

MAIB
MARINE ACCIDENT INVESTIGATION BRANCH

SAFETY DIGEST

Lessons from Marine Accident Reports

No 3/2004

Department for Transport
Eland House
Bressenden Place
London SW1E 5DU
Telephone 020 7944 3000
Web site: www.dft.gov.uk

Further copies of this report are available from:
MAIB
1st Floor
Carlton House
Carlton Place
Southampton
SO15 2DZ

Printed in Great Britain. Text printed on material containing 100% post-consumer waste.
Cover printed on material containing 75% post-consumer waste and 25% ECF pulp.
November 2004

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 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

MAIB

MARINE ACCIDENT INVESTIGATION BRANCH

The role of the MAIB is to contribute to safety at sea by determining the causes and circumstances of marine accidents, and working with others to reduce the likelihood of such causes and circumstances recurring in the future.

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

AB	–	Able Seaman
ARPA	–	Automatic Radar Plotting Aid
CCTV	–	Closed Circuit Television
CO_2	–	Carbon Dioxide
CPA	–	Closest Point of Approach
FRC	–	Fast Rescue Craft
GPS	–	Global Positioning System
GT	–	Gross tons
HS	–	Hydrogen Sulphide
IR	–	Infrared
LSA	–	Lifesaving Apparatus
"Mayday"	–	Spoken distress signal
MCA	–	Maritime and Coastguard Agency
OOW	–	Officer of the Watch
RIB	–	Rigid Inflatable Boat
RNLI	–	Royal National Lifeboat Institution
Ro-Ro	–	Roll on – roll off
TSS	–	Traffic Separation Scheme
VHF	–	Very High Frequency
VTS	–	Vessel Traffic Services

Introduction

Herewith another batch of salutary tales from the sea. Please take the time to read them – we all fall into bad habits; complacency is probably the greatest danger at sea. Hopefully these articles will remind mariners of every kind that ours is not a forgiving environment, so we must all constantly be alive to hazards.

Yet again, there are a number of collisions, groundings and near misses in this edition. Eion Lyons, in his excellent introduction to the Merchant Vessel section, stresses officers of the watch making wrong decisions. I echo his sentiments. But nearly all officers of the watch, including all those involved in these incidents, know and appreciate "the Rules", so why are they not being universally and appropriately applied? Here we must consider two factors: the growing plethora of things to distract the OOW on the bridge, and fatigue. The former is something that companies, masters and OOWs must address – the OOW **must not** be distracted from his prime task. The latter is still poorly understood. Too many mariners consider that the only effect of fatigue that they need to be concerned about is falling asleep. This is patently nonsense. Fatigue affects a person's alertness, comprehension, decision making abilities, judgment, awareness of danger and many other capabilities essential to the OOW. Our *Bridge Watchkeeping Safety Study* (published in July 2004 and available on our website or in hard copy from MAIB) identifies fatigue as a major causal factor in collisions and groundings. This **has** to be addressed.

In the Fishing Vessel section, it is heartening to read two good news stories (cases 22 and 23). In both cases, potentially lethal situations were dealt with most professionally, so that vessels and crews were saved. Forethought, good equipment, training and calm leadership carried the day. Would you be ready to deal with such situations in your boat?

In the Leisure Craft section, there are two tragic cases involving sea anglers. For fishermen, the boat is merely the means of enjoying their sport, so it often does not receive the attention and care that is essential.

Please pass these articles on to sea anglers that you know, so that they can enjoy their sport in safety.

Stephen Meyer
Chief Inspector of Marine Accidents
December 2004

Part 1 – Merchant Vessels

When approached by Stephen Meyer with an invitation to provide an introduction to the Merchant Vessel section of this edition of the *Safety Digest*, I felt both flattered and privileged because of the opportunity that was presented to me. During the last few years, the *Safety Digest* has evolved significantly and is now renowned throughout the industry for the positive contribution it provides to improving safety awareness and performance within the UK fleet and far beyond. However, the Digest is mainly dependent upon the source material, and the continued submission of comprehensive incident reports is therefore actively encouraged.

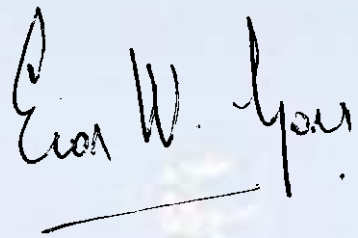
Consistently, the *Safety Digest* has provided readers with a broad selection of reports demonstrating the sometimes horrifying consequences of our errors or omissions, and this edition is no different. Although the incidents are only a very small sample of those reported to the Marine Accident Investigation Branch, and recognising that the reports published in the Digest are not selected on any statistical merit, it is nevertheless disturbing and disheartening to note that almost half occurred because of failures to properly adhere to the Collision Regulations. Whether this is evidence of a developing trend or not, I am provided with ample justification for reminding all seafarers charged with the responsibilities of bridge watchkeeping duties to maintain their knowledge of and adherence to the provisions of the COLREGS. There has been much debate over recent years during which it has been suggested that the regulations require yet further amendment and revision to take account of ever-evolving technology and working practices. Whilst that debate will undoubtedly continue ad infinitum, I would suggest that the fundamental problem is not with the regulations, but with the failure of some watchkeeping officers to properly adhere to them. Whether it is failing to maintain an effective lookout (Another Near Miss!!), acting on the basis of inadequate information (I Know Where I Am, But Where Am I Going?), passing at an inappropriately close distance (Too Close For Comfort; Risk of Collision Revisited!), failing to take full account of the prevailing circumstances and conditions (Collision in Fog) or blatant failure to comply with the most basic requirements of the COLREGS (Rule of the Road – What's That?), it is clear that on too many occasions officers of the watch are making the wrong decision. In every one of these incidents, the difference between what actually happened and a major incident was purely good fortune. It is incumbent on all of us in positions of responsibility within the industry; regulators, educational establishments, ship operators, shipmasters and watchkeeping officers alike, to make every possible effort to ensure better understanding and implementation of the Rules of the Road.

Obviously the saddest incident reports appearing in the *Safety Digest* are those during which someone loses their life. There are three such incidents in this edition, all of which could have been avoided if only the risks involved had been properly assessed and appropriate preventative measures put in place. Whilst neither scientific nor definitive, the evidence available from my own fleet indicates that in excess of 90% of all safety related failures are entirely avoidable, if only greater care and attention had been devoted to the planning, execution and monitoring of the task being undertaken.

Whilst the other incidents are all important, one in particular struck a familiar chord with my own experiences. Several years ago, in order to satisfy the requirements of a contract, it was necessary for my company to purchase a vessel. Except for

initial inspection, access to the vessel was denied and a handover to our incoming crew was not allowed. Investigation of a potentially serious incident that occurred soon after purchase identified that the vessel could not have been operating under previous ownership in accordance with the procedures left on board at time of sale. An effective familiarisation period would have identified this anomaly and prevented the incident. "Blackout" highlights the importance of ships' staff having the opportunity to become familiar with their working environment. When this involves the acquisition of an existing vessel, it is essential that every effort is made to ensure cooperation between the leaving and joining crew.

It is the responsibility of all seafarers and shore-based managers to promote and develop an effective safety culture within individual ships, shipping companies and thereby across the entire industry. This cannot be done independently without reference to events and initiatives elsewhere within the industry. Consultation and exchange of information are essential to best aid the reduction in safety related incidents and I commend this edition of the *Safety Digest* to you as an effective part of that improvement process.



Eion Lyons

Eion Lyons is Marine Director and Head of Technical Department of F.T. Everard & Sons Limited. Based at Dartford in Kent, Everard operate a fleet of petroleum product tankers around the UK, Ireland and close continent. Eion went to sea in 1977 with Hunting & Son, joined Bolton Maritime Management in 1981 gaining command in 1988 before spending some time with Sealink. His sea service encompassed tankers, bulk carriers, ro-ro passengers and OBOs. He joined Everard as an Assistant Marine Superintendent, progressed to Quality Manager and was promoted to his current role in 1995.

A Fellow and Council Member of the Nautical Institute, Eion is an Elder Brother and Assistant Marine Director of the Corporation of the Newcastle Upon Tyne Trinity House. He represents Everard on panels at the UK Chamber of Shipping and at other industry organisations.

Exposure to a Potential Killer

Narrative

On board a passenger ship, a crossover line between the port and starboard ballast/treated black water/grey water tanks passed through an adjacent cofferdam. The pipework in the cofferdam had suffered corrosion, and this allowed sewage to build up in the tank. Ship's staff were aware of the problem, and permanent repairs were planned for the next refit which was due within a few months.

Because of the amount of liquid that had leaked into the cofferdam, it was decided to empty the contents using a portable salvage pump. The cofferdam had been opened on a number of occasions without cause for concern.

The appropriate tank rescue equipment was assembled in the vicinity of the tank lid, in accordance with the company's 'Permit to Work – Entry into Confined Spaces' procedures. Two ratings removed the port aft lid to ventilate the tank, so that the senior first officer could test the atmosphere and complete the Permit to Work. Immediately on lifting the lid, the ratings noticed a strong smell of sewage. They inserted the fan extension hose into the tank and vacated the area.

A short while later, the senior first officer arrived to conduct the routine atmosphere test. While approaching the tank, his multi-gas detector registered an alarm and recorded a hydrogen sulphide (HS) reading of 98 parts per million. The compartment was immediately evacuated and the watertight access doors closed.

The cofferdam lid was re-secured 15 minutes later by a rating wearing full compressed air breathing apparatus.

The ship's senior doctor examined the two ratings who had removed the cofferdam lid, and treated them for exposure to hydrogen sulphide. They remained fit for duty.

The Lessons

1. Over-exposure to the potentially lethal toxic gases was prevented because the ratings vacated the area immediately after opening the cofferdam lid. The senior first officer fully recognised the dangers, and understood the meaning of the multi-gas detector alarm and reading levels. His direction to fully isolate the compartment stabilised the situation and prevented the possible contamination of other areas.

2. The need to quickly replace the cofferdam lid was recognised, and this was achieved in a controlled, safe manner, making use of the compressed air breathing apparatus to provide safety to personnel.

3. Strict adherence to the company's Permit to Work procedures ensured that all appropriate safety equipment was immediately available, and procedures were followed which reduced the risks associated with this potentially dangerous activity.

4. It is advisable to test the atmosphere on opening tank lids, because potentially lethal levels of HS can be released if tank levels are high and the surface is disturbed by the ship's movement. In addition, it is prudent to don breathing apparatus when opening tank lids if the atmosphere in the compartment is unknown.

5. Whenever corrosion or component failure compromises the integrity of sewage systems, every effort should be made to repair the defect as soon as possible to prevent exposure to toxic HS gases. If sewage systems, or compartments suspected of containing sewage, are opened, there will be a danger from the release of HS gas. Concentrations as low as 10 parts per million are toxic, as indicated in Marine Guidance Note 33 (M+F). It should also be noted that HS might be released from stagnant bilge areas that contain animal, vegetable or mineral oils which have been mixed with salt water, especially when the surface has been disturbed.

Collision in Fog

Narrative

A ship was on a river passage with a pilot embarked. As the visibility was about one cable, the bridge organisation was configured to conduct blind pilotage. Also, the navigation lights were switched on, a fog lookout was positioned on the forecastle, engines were ready for immediate manoeuvre and speed was moderated to 8 knots. On the advice of the pilot, sound signals were not sounded.

As the ship approached a container terminal, visibility improved to about one mile, so the fog lookout was stood down and speed increased to 12 knots. Minutes later, however, the visibility deteriorated, and speed was reduced again to 8 knots. A tug pushing three barges loaded with containers was then seen at about one cable on the ship's head. At about the same time, the VTS advised that a tug was one cable ahead, and a small radar target was seen separating from the clutter in the vicinity of one of the container vessels berthed alongside. Full astern was ordered, quickly followed by emergency full astern.

Fortunately, although the ship's starboard bow hit the tug's port quarter, neither vessel was damaged and there were no casualties.

The Lessons

1. **When navigating in river ports, notably in Europe, where many have docks extending for several miles and a lot of barge traffic, small vessels such as tugs and tows are likely to pop up from behind moored vessels or side entrances without warning. This is particularly dangerous in restricted visibility when a VTS is often unable to control such vessels, or to give adequate warning of their approach, due to limitations of its own radar coverage. As always, therefore, self-help through a sharp visual and radar lookout is the best first line of defence against this danger.**

2. **Operating in confined waters, the forward mooring team is normally at hand to let go the anchor if required, and it is logical to use these people as lookouts when the situation dictates. In thick fog, a lookout in the eyes of a ship should see and hear other vessels ahead before anyone on the bridge, and the seconds saved might just be enough to make any action taken in order to avoid a collision successful.**

3. **Don't be caught out by relaxing the precautions taken for restricted visibility too hastily. Fog is a wonderfully frustrating phenomenon, which can be completely unpredictable. When visibility appears to be improving, stay on your guard, it can deteriorate twice as quickly and without warning.**

4. **Despite the requirement of the collision regulations, it is increasingly apparent that consideration of stopping distance is not at the top of a master's priorities when determining safe speed. Consequently, when suddenly faced with another vessel at close range, many ships would be unable to avoid a collision by just stopping. As few other alternatives are available in restricted waters, collisions are inevitable. Stopping distances are important when determining safe speed. The manoeuvring data provided on bridge bulkheads is not a decoration, it is there to be used.**

I Know Where I am, But Where am I Going?

Narrative

Nearly 200 passengers were rescued from their stranded catamaran when it grounded on rocks in very dense fog.

The skipper had been navigating in the dark, through a narrow channel with rocky shelves each side of the vessel. He was primarily using an electronic chart plotter with a GPS input, although he had two radars and a magnetic compass at his disposal. Unusually, the vessel had been built with the two rudders sited inboard of the propeller slipstream.

On leaving the berth, the skipper made a 130° turn around the southern end of a sandbank and then steadied up on course for the passage through a narrow channel with rocky shelves on either side. His plotter indicated that the vessel was to the left of the central track line displayed on the plotter, and too close to the rocks to port. Travelling at full service speed in order to maintain good steerage, the skipper altered course to starboard to bring the vessel on to the track line. However, the rate of change of heading was too fast, and the vessel overshot the track line. She grounded on the opposite side of the channel.

Later, the passengers were evacuated from the grounded vessel to her sister vessel and were returned safely to the harbour.

Three crew members and a salvage pump from an RNLI lifeboat were placed on board the stricken vessel to assist the crew. Despite extensive damage to one of the hulls, the vessel floated off the rocks with the rising tide and was able to make her way back to harbour under escort of the lifeboat. Nobody on board was injured.

Vessel afloat in harbour on the day after the accident

Photographs of hull showing position of propeller and offset rudder

The Lessons

1. Blind pilotage, which relies totally on instrumentation when navigating in fog, should be practised regularly to ensure that bridge personnel are familiar with, and practised in, the interpretation of the critical navigational displays that are used during this process.

2. Total reliance on only one navigational aid (the chart plotter in this case) in fog is insufficient; skippers should frequently scan the other navigational aids (radar, compass, rate-of-turn indicator) to obtain a greater and constant sense of orientation.

3. The design feature of the siting of the rudders outside the propeller stream had the knock-on effect of making the vessel difficult to manoeuvre at less than full speed. This was not ideal when navigating through a narrow channel with rocks each side, in fog. Following this accident, the owners changed the arrangement of the rudders to improve the vessel's manoeuvrability at low speed.

4. A high standard of subdivision can keep a grounded vessel afloat long enough to allow passengers to be evacuated and/or to enable the vessel to reach a safe haven.

Rule of the Road – What's that?

Narrative

A ferry was crossing the Dover Traffic Separation Scheme (TSS) on passage from Dover, with the intention of passing close west of the MPC buoy. A tanker was crossing the north-east traffic lane, intending to pass to the east of the MPC buoy and to then join the south-west traffic lane. It was daylight with good visibility.

Instead of following the planned track, the tanker's master altered course to port to pass to the south of the MPC buoy. This caused the vessel to cross the north-east traffic lane at an oblique angle.

The vessels were now on a collision course, with the tanker about 30° on the ferry's port bow. The ferry gave a series of short flashes. On receiving no response, these were repeated.

The tanker's master called the ferry on VHF radio channel 16, enquiring about the ferry's intentions and indicating that he intended to alter course to port.

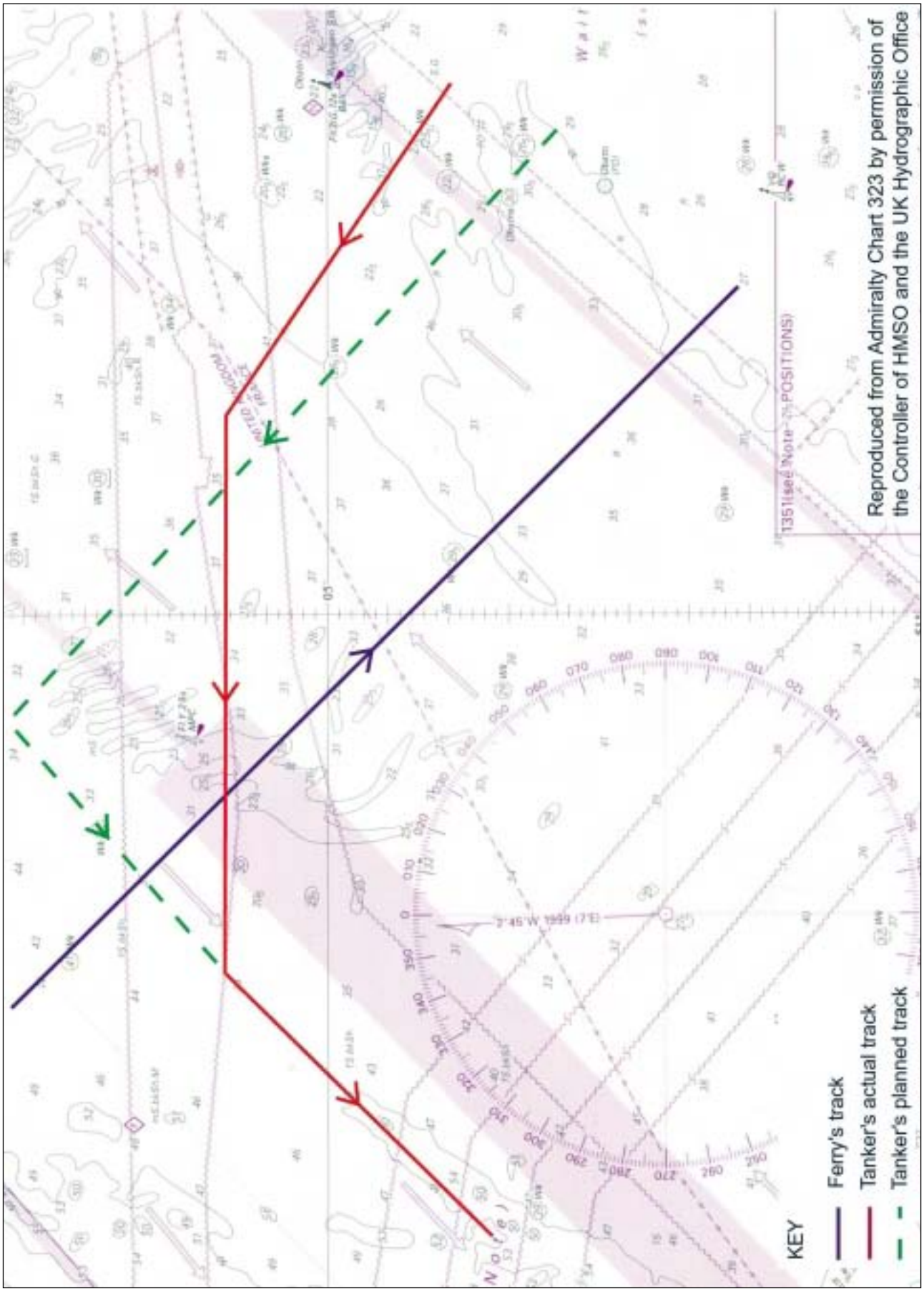
With no action being taken by the tanker, the ferry altered course to starboard. The tanker then altered course to starboard around the ferry's stern.

The Lessons

1. **The decision taken by the tanker's master, to alter course to port while crossing the north-east traffic lane, resulted in the vessel following a track far removed from that intended, and in contravention of Rule 10(c) of the Collision Regulations.**

2. **It was while on this latter course that a risk of collision developed with the ferry. The ferry was on the tanker's starboard bow. It was therefore a crossing situation, with the tanker the give-way vessel. However, rather than taking action in accordance with Rule 15, the tanker's master decided to alter course to port. This would have caused the tanker to cross ahead of the ferry, in contravention of that rule.**

3. **The incident could have been avoided had the tanker crossed the TSS as originally planned, or taken early action to avoid collision in accordance with Rule 16 and exercised the precaution of keeping clear of the MPC buoy in accordance with Rule 2(a).**


KEY
Ferry's track
Tanker's actual track
Tanker's planned track
Reproduced from Admiralty Chart 323 by permission of the Controller of HMSO and the UK Hydrographic Office

Routine Maintenance Causes Engine Failure – Are Your Instructions Adequate?

Narrative

While alongside during the morning watch, a "bang" was heard in the unmanned forward main machinery space of a 20,000gt ro-ro ferry. Immediately afterwards, the fire alarm system activated and the on watch engineer confirmed the presence of smoke and mist adjacent the running diesel-driven generator on the control room CCTV. He immediately stopped the engine, isolated the compartment and operated the hi-fog fire-fighting system. This action rapidly extinguished the small fire and dampened down the oil mist.

When the machinery space was entered, the engine's No 6 cylinder large end bearing assembly was found to have passed through the port crankcase door, and to have come to rest immediately outside the engine. The piston and severely distorted connecting rod were hanging from the cylinder liner. A small amount of soot and fire damage was also evident on the port side of the engine.

The subsequent technical investigation revealed that the engine had been subject to routine scheduled maintenance. Since completion, the engine had been run for 7 hours. The maintenance work on No 6 cylinder unit included:

- Removal of the cylinder head, piston and connecting rod assembly.
- Renewal of piston rings.
- De-glazing the cylinder liner.
- Renewal of the large end bearing shells.

Once the cylinder liner, piston, and connecting rod were removed, the full extent of the damage could be assessed. This is clearly shown in the figure.

During the investigation, it was found that the lower half of the large end bearing shell had been fitted to the upper section, and vice versa. Despite the presence of bearing location tangs, it was still possible to fit these incorrectly and tighten the bearing cap. This blanked the oil supply to the small end bearing and cooling oil to the underside of the piston, resulting in overheating and seizure of the piston in the cylinder liner. The continued crankshaft rotation caused the large end fastenings to fail, and the assembly to pass though the crankcase door.

The Lessons

1. **The importance of a thorough understanding of the instinctive actions to be taken in the case of a main machinery space fire cannot be over stressed. Clearly, in this case, prompt action prevented the strong possibility of a major fire developing – with its potential catastrophic consequences.**
2. **Those undertaking maintenance activities should have a thorough understanding of the function of components, and how they operate, and should follow the manufacturers' or company-specific instructions. Where there is a possibility of components being fitted incorrectly, or where there is ambiguity, this should be brought to the attention of management and, where appropriate, additional maintenance instructions should be promulgated.**

Damage to No 6 Cylinder Components

Another Near Miss! – Coaster and Fishing Vessel

Narrative

A 1,700gt products tanker was on a south-easterly course 3 miles off the Yorkshire coast. The master was on watch and was alone on the bridge. He was steering by autopilot, there was a north-westerly wind force 4 to 5 blowing and a 1.5 to 2m swell. The visibility was good.

Towards the end of his watch, the master detected visually, and soon after using binoculars, a small vessel approximately 2.5 miles ahead. He then attempted to acquire the target on the vessel's ARPA, but was unable to obtain an accurate fix.

Based on his visual assessment, he assumed the other vessel to be on a course similar to that of his own. He also assumed he was the overtaking vessel and would pass clear to the east. Confident of his assumption, he went to the chart table, which was positioned in the aft part of the bridge, and began plotting a position on the chart.

On board the other vessel, a 10m fishing vessel engaged in trawling on a north-westerly course, the skipper detected the coaster at a distance of approximately 3 to 4 miles ahead, on or near a collision course. As the distance decreased, he became concerned and called the coaster several times on channel 16 VHF radio, but received no reply. As the distance decreased further, the skipper realised the coaster would not be able to take avoiding action in ample time, and began altering course hard to starboard.

At that instance, the master on the coaster returned to the forward part of the bridge and detected the fishing vessel 5 to 6 cables ahead. He then altered course hard to starboard. Both vessels passed each other within a distance of 1 cable.

The somewhat shaken skipper of the fishing vessel reported the incident to the coastguard.

The fishing vessel was displaying the correct signal for a vessel engaged in trawling.

The Lessons

1. **This incident is another one of the many near misses the MAIB receives between coastal vessels and vessels engaged in fishing. When navigating in coastal waters, always be aware that the majority of fishing vessels, while engaged in fishing, are hampered by their gear and will be slow to react when altering course, whether it be through evasive action or not. The best solution is to give these vessels a wide berth at all times. Resist the temptation to get close.**
2. **It is impossible to both maintain a proper lookout and work at the chart table for any length of time. In accordance with Rule 5 of the Collision Regulations, a proper lookout should have been maintained at all times by all available means. An additional person should always be employed on the bridge as a dedicated lookout when the officer of the watch has other duties to attend to. Doing so, would have averted this near miss.**

Photograph of fishing vessel and coaster showing relative sizes

CASE 7

Too Close for Comfort

Narrative

The watchkeeping officer of a feeder container vessel detected, by ARPA, a group of fishing vessels ahead at a distance of approximately 11 miles.

As the distance between them decreased, the watchkeeping officer altered course 30° to port to leave the group of fishing vessels clear on his starboard side. However, one fishing vessel, which was trawling away from the group, remained on the container vessel's port side at a distance considered safe by the watchkeeping officer. She was trawling in a north-westerly direction at a speed of approximately 2.5 knots, 5 miles from the coast, when her skipper first detected the container vessel at a distance of approximately 4 miles. She was displaying the appropriate daytime signals for a vessel engaged in trawling. The visibility was good.

When the distance between the two vessels decreased to approximately 1 mile, the fishing vessel's skipper became concerned because the container vessel appeared to be taking no avoiding action. He called the container vessel on VHF radio channel 16 to attract her attention. He received no reply. The fishing vessel was constrained from altering course to starboard for fear of coming fast on two nearby wrecks.

The container vessel still had the remaining fishing vessels on her starboard side. Thankfully, and just in the nick of time, the container vessel did alter course to starboard. The two vessels passed each other at a distance of approximately 30 metres.

The Lessons

1. **The MAIB receives regular incident reports from the coastguard of near misses between coastal vessels and vessels engaged in fishing. It is an all too familiar situation.**

   However tempting it might be to get close to fishing vessels, for whatever reason, whether intending minimum deviation from track, or just out of sheer curiosity, a fishing vessel engaged in fishing is the stand-on vessel under the Collision Regulations. This means they should be given a wide berth at all times, especially in coastal areas where vessels tend to fish in a fleet. Most fishing vessels have a variety of gear, often extending into the seaway by half a mile or more. In addition to this, their course and speed can be unpredictable, especially when they are hauling and shooting their gear.

2. **Consideration for other users of the sea is a must. Think ahead, and recognise how your actions might affect others. Had this been done, this incident could have been avoided.**

3. **In this instance, there was a lack of understanding of each other's limitations. The container vessel was hampered by the other fishing vessels on her starboard side, and the fishing vessel was restricted by seabed obstructions. Had each been fully aware of the other's limitations, more substantial avoiding action could have been taken at a much earlier stage – before the situation became far too close for comfort.**

It Only Takes One Slip Up to Cause a Fatal Accident

Narrative

A United Kingdom flagged feeder container vessel, built in 2003, had completed her routine passage from the UK to a number of continental ports to embark cargo. She arrived at the unloading berth in wet weather and a force 4 wind.

While preparing to lift the gangway, a defect was discovered on the ship's starboard crane. The daywork electrician, helped by the second engineer, had difficulty in determining the fault and, at 2400, the chief engineer assisted in the investigation. A faulty solenoid coil was eventually discovered and, at 0020, the chief engineer, followed by the electrician, proceeded to the crane.

It was raining and the decks were wet when the electrician, who was wearing safety shoes, helmet, overalls and gloves, went down an upperdeck ladder with his back to the treads. The ladder was in good condition, but as he reached the deck he slipped on the wet surface, hit the ladder railing and then fell onto his back, striking his head.

Although bleeding from his head wound, initially the casualty was conscious. However, a short while later, his breathing and pulse rate reduced and he became unconscious. The crew started resuscitation techniques and administered oxygen while the emergency services were called.

On arrival, the paramedics took over from the crew, but, despite their efforts, a doctor pronounced the casualty dead about an hour later.

The Lessons

1. When conducting risk assessments, due regard should be paid to the condition of ladders and to the immediate deck area, which may become slippery and dangerous when wet, especially in heavy seaways. Careful consideration should also be given to applying non-slip paint, or using other methods to improve the traction in these risk areas.
2. Although, ultimately, the crew were unable to save their badly injured colleague, the regular drills which had been conducted on board their vessel, helped them deal with the situation quickly and confidently. By administering first-aid to the electrician, they were able to stabilise him until the emergency services arrived.

Blackout!

Narrative

A coaster, recently purchased by new owners, completed unloading her bulk cargo at a berth in a small harbour. She did not take on a fresh cargo, and in order to catch the tide left her berth without taking on any ballast.

While manoeuvring from her berth, astern engine movements caused aeration of the water around her stern sufficient to affect the cooling water intake to her port side generator, which was running. As a result, this began to show signs of overheating.

The motorman attempted to start the starboard generator, but found its starting batteries flat. As the batteries on the starboard generator were totally independent of those on the port side unit, he disconnected one on the port generator with the aim of using it on the starboard unit.

As the motorman was making these changes, the vessel was about to clear the harbour entrance and began making a starboard turn to follow the channel. Coinciding with this were indications in the wheelhouse that the vessel had suffered a complete electrical failure, including the 24volt emergency system. However, no alarms sounded and all warning lights went out because these were supplied by the 24volt system.

The master changed over to emergency steering. Although the main engine continued to run, he was unable to prevent the vessel grounding, partly due to the hand-powered emergency steering being very heavy. The falling tide prevented her from being refloated until several hours later, fortunately without serious damage.

The Lessons

1. **Taking on ballast before departure would have given both the propeller and generator cooling water intake greater immersion, and would have reduced the effects of propeller wash on the port generator's cooling system. Ballasting operations should be part of the vessel's standard departure procedures and safety management system.**

   If a tide is missed because essential safety-related operations have to be completed, then an owner, and others, must accept that safety is the priority.

2. **The motorman, who had been on the vessel only a few days, was unaware that the 24volt system was supplied from the batteries on the port generator, and that this system also held closed the breakers on the main 220volt system. Breaking into the battery system on the generator caused total loss of electrical power on both 24volt and 220volt systems. The importance of the 24volt system to the safety of the vessel should be indicated by warnings, in the form of signs posted on the batteries and an entry in the vessel's safety management system. These will assist new crew members in future.**

3. **The crew had been on board for only a few days before these events took place, and had little opportunity to become totally familiar with the vessel. This was compounded by limited technical documentation being passed from the previous owners. It is important that all crew new to a vessel have the opportunity to become familiar with her essential safety-dependent systems before being required to sail her.**

Fatal Balancing Act

Narrative

A fast rescue craft (FRC) returned to its mother vessel, with supplies from ashore which included four large gas bottles used for welding and metal cutting. The crew on board the FRC comprised the skipper, engineer and cook.

When the FRC came alongside the vessel, the engineer and cook climbed out of it, and the engineer removed his lifejacket. The skipper connected up the lifting hook from the vessel's crane to the FRC. The FRC's painter was tied loosely to the vessel's guardrail.

The skipper stayed on board the FRC as it was hoisted from the water and raised level with the vessel's deck. The engineer assisted with the stores transfer but, during the unloading operation, the loose gas bottles rolled, the painter released and the FRC began to dip at the bow and ship water.

To counteract the increasing trim of the FRC by the bow, the engineer jumped into the stern of the FRC. This caused it to tip vertically and the stern to come into contact with the lifting strop.

In an effort to stabilise the FRC, it was lowered back to the water. As the bow re-entered the water, it further unbalanced the FRC, the gas bottles were lost over the bow and the FRC began to flip through 180°. The skipper managed to cling to the lifting strop. The engineer, however, was washed off and swept away.

Time was of the essence, as the crew, desperate to save their colleague fighting against a strong tide, attempted to restart the FRC's engine. Unfortunately, it had become submerged when the FRC flipped over, putting it out of action. The crew started the mother vessel's engine, cut through the anchor chain and hurriedly threw a lifebelt to their colleague. But it was too late. Before the engineer was able to grab it, he drifted away from them. His body was recovered 2 weeks later.

The Lessons

1. **No risk assessments had been carried out for operations involving the FRC. Had they been, the following risks might have been exposed:**
   - **Transfer of crew and stores to/from the FRC;**
   - **Lifting operation of the FRC with crew/stores on board;**
   - **Carrying heavy stores;**
   - **Suitable survival clothing;**
   - **Man overboard.**
2. **Had the heavy gas bottles been suitably secured in the FRC, or removed before it was hoisted, loose heavy loads would not have moved around and destabilised the FRC.**
3. **The engineer probably decided – on the spur of the moment – to jump onto the FRC from the vessel, to prevent the stores being lost overboard. It was a selfless action, but one that cost him his life. Everyone needs to place safety first.**

Risk of Collision Revisited

Narrative

A cargo vessel was steering 260° at 8.5 knots. It was daylight with good visibility. A fishing vessel was trawling in a northerly direction at 2.2 knots.

The cargo vessel's master was on watch. He saw the fishing vessel on his port bow, interpreted from his ARPA that she would pass 0.5 mile ahead, and initially decided to maintain course and speed.

The fishing vessel's skipper, however, concluded that a risk of collision existed, and expected the cargo vessel to take avoiding action. With no action apparent, he attempted to contact the cargo vessel by VHF radio, without success.

The cargo vessel then altered course to starboard and passed close ahead of the fishing vessel.

The Lessons

1. **The cargo vessel's master interpreted that a risk of collision did not exist. He based this interpretation on the fact that the fishing vessel was expected to cross ahead at a range of 0.5 mile. However, in view of their respective tracks, her CPA would have been only 0.1 mile. Therefore, it is hardly surprising that the fishing vessel's skipper felt vulnerable, and wished the cargo vessel to take avoiding action.**

   Rule 7 of the Collision Regulations requires all available and appropriate means to be used in determining if a risk of collision exists, and warns of the dangers of misinterpretation and of making assumptions based on scanty information.

   In this case, the cargo vessel should have exercised caution, and should have taken avoiding action at an early stage.

2. **When the cargo vessel's master eventually decided to take action, he chose to alter course to starboard. At this late stage, this was unwise for two reasons: firstly, the alteration effectively increased the risk of collision initially and, secondly, it resulted in his vessel passing ahead of the other, which would have done nothing to alleviate the anxiety held by the fishing vessel skipper.**

   At this stage, an alteration of course to port would have immediately increased the fishing vessel's CPA, and given the skipper an assurance that a risk of collision had been eliminated.

Working Under Pressure

Narrative

A third officer was in charge of the deck of a product tanker while loading motor spirit. He was accompanied by an extra third officer and an AB, and had received written instructions from the chief officer.

The plan was to load No 3 wing tanks, followed by No 1 centre tank. The pumping rate was 800m^3 per hour, and as the No 3 wing tanks neared their intended level, the third officer instructed the AB to open the intermediate valve to No 1 centre tank. The AB, however, opened the intermediate valve to No 2 centre tank.

The AB was then instructed to open the tank valve on No 1 centre. Unwittingly, the AB opened the valve to No 2 centre, but his error went unnoticed as he was obscured from the officers' view. On hearing the AB's report that the valve was open, the third officer closed the valve to No 3 port. Moments later, the extra third officer closed the tank valve on No 3 starboard, and because of the configuration of the pumping arrangements, this was against the full flow of the shore pump.

At that point, the centre deck line in way of the VJ coupling, ruptured, causing approximately 6m^3 of motor spirit to spill onto the deck. The loading was immediately stopped, the general alarm was sounded, and the accommodation vents shut down. The engine room was also advised. The spill was successfully cleared and no pollution resulted.

The Lessons

1. **Everybody is prone to an occasional lapse in concentration, and it only requires one basic error during the loading of oil and gas products to spoil everyone's day. Mistakes, however, need not end in disaster, provided they are spotted early. Cross-checking by a second person is one of the simplest – yet most effective – ways of doing this, and should be done regardless of how routine a task, or how competent an individual. It is not a slight on a person's ability, but is a proven safety procedure used to good effect by many industries and professionals, including aircraft pilots.**
2. **When cargo is coming on board at high pressure, it pays dividends not to close a tank until after verifying that there is a flow into another tank. Otherwise, something has to give, and the resulting sound will be more than just the master blowing his top!**

When Things are Meant to go Wrong

Narrative

A sophisticated, newly completed, twin screw vessel was on builders' trials. She had completed a seagoing phase of her trials and was to return to her berth at the builder's yard. During these trials, one of the processors serving the machinery management system failed. This processor was switched off but, as a result, the control panel's warning light remained on.

The approach to her berth was along a river and buoyed channel. Shortly after the pilot boarded, a signal on the machinery monitoring system indicated a fault with one main engine to gearbox clutch. However, the clutch appeared to be performing correctly and the chief engineer decided the problem was due to an instrumentation fault. The vessel continued its passage upriver.

As the vessel entered a narrow part of the channel, the pilot requested a slight change of heading to port. The helmsman brought the head around and applied starboard helm to steady her on her new heading.

However, the vessel's head continued to pay off to port. In spite of applying more starboard helm, the helmsman was unable to stop the head paying off to port even more rapidly.

Both propellers were put on to astern pitch and helm hard to starboard. Despite these efforts, the head continued to swing to port. However, speed came off the vessel, but not before she touched bottom. She remained grounded for nearly 7 hours when, with the aid of tugs, she was floated free and towed to her berth.

Initial investigation established that the port propeller had spontaneously moved to full astern pitch just, coincidentally, as the initial course adjustment was made, as requested by the pilot. Tests showed that connections in a cable connector were intermittently poor and had resulted in the port propeller misbehaving.

The Lessons

1. **Among other objectives, builders' trials are for highlighting defects in a vessel and its systems. At these times, failures must be expected, and provision made to ensure the vessel's safety. The earlier problems with the processor and clutch instrumentation suggest that there were sufficient warnings of possible problems before the river passage began. Until all tests and trials are satisfactory, the close attendance of tugs, when in restricted waters, is a prudent provision.**
2. **A continuously shown alarm rapidly becomes an ignored alarm. The illuminated single alarm lamp on this control panel made it difficult to give any subsequent alarm condition its proper status, and confer on it the appropriate level of urgency. Great care needs to be applied to the configuration of machinery alarm systems to ensure each is given the consideration it deserves.**

Breakfast May Be Late

Narrative

During his preparations for cooking breakfast, a cook switched on a large electrically heated hotplate, used for cooking food in bulk, and coated it with cooking oil to ready it for grilling.

As its temperature increased, the cooking oil on the hotplate ignited.

The cook smothered the flames, using the integral hinged hood of the hotplate, and cooled the unit using a clean water supply.

Once cooled, the hotplate was examined. It was found that one of its three electric heating elements was defective. This was the element closest to the unit's single thermostat.

Because the unit's thermostat was adjacent to the failed heating element, it was sensing the coolest area of the hotplate. The two working elements continued to heat the remaining part of the hotplate but, because the thermostat was sensing a low temperature, the increasing and excessive temperature was not being sensed. This uneven heating process continued until the coating of cooking oil reached its auto-ignition temperature and burst into flames.

The Lessons

1. **Defects in any electrically heated equipment should be rectified as soon as they are detected.**

2. **A second, sensibly placed, thermostat could have prevented the localised excessive heating.**

3. **Using water to tackle an oil or fat fire is not advisable. In this case, water was used to cool the exterior of the hotplate, after its integral lid had been closed to smother the fire and the electrical supply isolated. Water was thus separated from the hot oil and any live conductors.**

Offset in the Mediterranean

Narrative

A tanker was approaching a Mediterranean port. On contacting the Port Authority at 0045, the ship was assigned an anchorage. The master came to the bridge at 0115, and confirmed with the second officer the assigned anchorage. Although the course to the anchorage was determined, no plan was made to monitor the ship's approach to the anchorage position.

The arrival checklists were completed by 0130, and end of passage rung at 0136. The master took the con at 0140 from the second officer, who was the OOW. The master asked the second officer to put the anchor position on the radar. This was done using the latitude and longitude readout of the radar cursor using the co-ordinates of the centre of the anchorage circle from the chart. No allowance was included for the distance of the radar scanner from the bow, nor was the datum shift, which was indicated on the chart, applied. The datum shift accounted for an error of 140 metres to the north-east, and the bridge to bow distance added an additional 130 metres, also to the north-east. This put the drop position on the radar a total of 270 metres north-east of the required position, and nearer the coast.

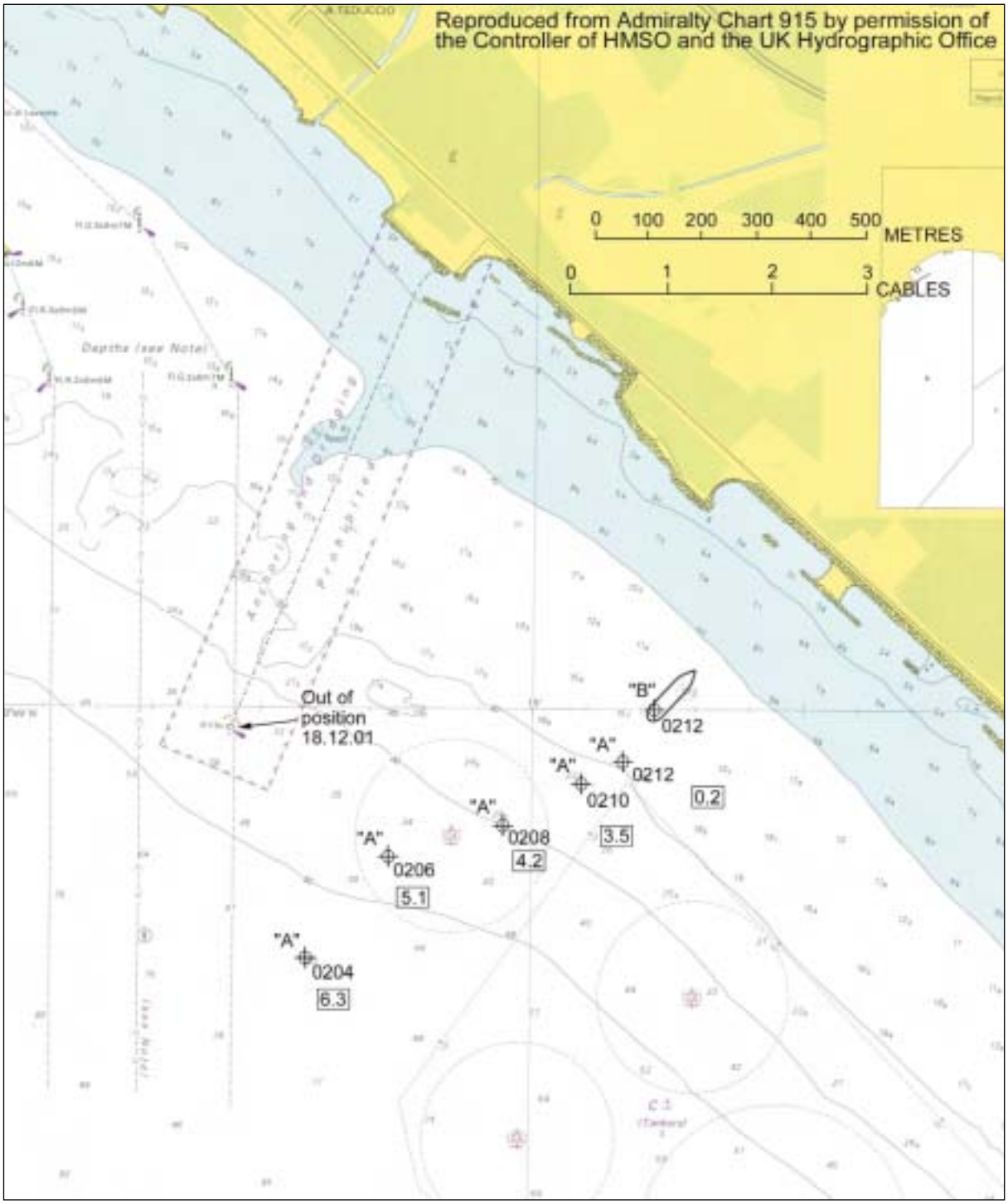
The engine was successfully tested astern at 0150 with 1.7 miles to run to the anchorage. The master intended to put the engines astern when 6 cables from the anchor position. Experience told him that this would bring the ship to a stop at the required point. The 'go astern' position would be 12 cables off the coast ahead of the vessel.

At approximately 0200, with the vessel 12 cables from the shore, and where the master intended to ring slow astern, he noted that the let go position on the radar appeared to be too close to the land. He asked the second officer to check the radar mark. This distraction delayed the astern movement until 0204. The master still expected to be able to stop the vessel in time, but had failed to recognise that the astern movement was applied 3 cables further on than intended.

At 0210, the second officer plotted another GPS fix on the chart, again failing to apply the datum shift, but this time incorrectly plotting the position some 160 metres south-west of the given co-ordinates. The position indicated that the vessel (bridge) was still 40 metres inside the anchorage circle on the chart. In fact, with the datum shift applied, and the position correctly plotted, the vessel was 240 metres outside the circle, and already across the 20-metre depth contour, putting the bow 90 metres from a charted 10.3 metre obstruction. The master identified the log speed at this time to be about zero, and using the 0210 position as a guide, considered that although the ship had overrun the anchorage, they could continue astern to regain the required anchor position.

At 0212, the master, still misled by the 0210 plotted position, noted that the vessel was still not gathering sternway, and increased to half astern. At 0218, the position was again plotted without the datum shift, and at 0220 the engine was stopped in the realisation that the vessel was aground. No one onboard noticed any bump or list as the ship had taken the ground. Throughout the approach to the anchorage the echo-sounder had not been monitored.

After discharging ballast from the forepeak, the vessel refloated some 5 hours later without the assistance of tugs.



From data logger reconstruction of track. 'A' are uncorrected for GPS/chart datums, 'B' is corrected and shows bow in relation to GPS receiver

The Lessons

1. The problems associated with datum shift are well established. In time, all charts will be referred to a common datum, namely WGS84. But until that time it is worth repeating the warning to check datum shift. If it is shown on the chart, it is navigationally significant.

2. Without a passage plan, there is nothing against which to monitor the vessel's progress to confirm that she is safe. Appraisal is the first stage in planning a passage, and it is by this point that any notes on the charts in use should have been read. The datum shift noted on the chart can then be highlighted.

3. Positions obtained from an electronic navigation system should be cross-checked with positions from other systems, and not used in isolation. The use of depth contours, as a check of position, should not be forgotten. A comparison between the *expected* and the *actual* echo sounder readings provides a useful method of monitoring progress along the passage plan. In addition, alarm functions on the echo sounder can provide an early warning that the water depth is less than expected.

4. When a radar mark is used to identify the anchorage position, care must be taken to ensure that the datum used is the same as the datum on the chart. This system provides a useful, continually updated, visual indication of where the anchorage position is in relation to the ship. But care must be taken to apply shifts and bow/bridge distances to ensure its safe use.

5. Effective bridge teamwork requires a mutually understood goal, with clearly defined tasks for the team members. It is of little use having a plan if no one else knows it. Effective communication – both of the task and the required actions by each member – is the key.

6. The use of large-scale charts can give a false impression. When using smaller scale charts, the size of the vessel is generally not plottable at the scale of the chart. When navigating on a large scale plan, the vessel's size can now be plotted. On the larger scale charts the position plotted is effectively the bridge of the vessel or wherever the GPS aerial is sited. A position that appears to be inside the navigable water may hide the fact that the other end of the vessel is outside, and what at first appears to be a safe condition, in fact is a dangerous one.

Part 2 – Fishing Vessels

Never having had the misfortune of finding myself overboard, I can only imagine the panic and terror that would ensue.

The wearing of lifejackets has long been promoted as the only safe means of protecting oneself. Indeed, there is some substance to this theory and I would certainly endorse the wearing of buoyancy aids. But there are no absolutes. Having said that, may I offer the suggestion of improved working practices, so that you can avoid finding yourself in this position in the first place.

When all said and done, your vessel is your primary lifesaving appliance. And it is your vessel which ultimately holds the key to your survival.

We all know that accidents happen – they are a fact of life, as demonstrated in many of the articles in this edition of the *Safety Digest*. Yet this should not deter us from attempting to reduce the risks by applying simple common sense. A greater awareness of the dangers lurking on board every vessel, combined with improved working practices, will significantly reduce the risk of accidents, including man overboard.

Some lifejackets can be cumbersome, uncomfortable and, occasionally, impractical to wear. But the fact remains that by wearing one you will substantially increase your chances of survival in an MOB situation. Perhaps a lifeline or a harness may be the preferred alternative of some fishermen.

Here are my suggestions to maximise your safety:

1. Ensure work areas are as free from obstructions as possible, and remember:

   "Tidy Ships Reduce Falls and Slips"

2. Let people ashore know your plans – *where* you are fishing and *when* you expect to return.

3. Compile a risk assessment of your vessel, and include the crew; they may have noticed something which you have not.

On a final note: safety is **everyone's** concern, including your family and friends. They want you to come home safe too!

Alan Piggott

Alan's 36 years in the industry began as a fisherman sailing out of Grimsby. He then worked on the enforcement side, as a warranted British sea fisheries officer for the Scottish Office. After working in the Shetland Islands as a Production Manager, Alan returned to his roots by becoming the Safety and Training Officer of the National Federation of Fishermen's Organisations.

Are You Alone?

Narrative

A small 6m open fishing boat was single line creel fishing close inshore on the Scottish coast. The creels were recovered by hand as there was no hauler onboard. The weather was good with only a force 2 south-westerly wind. The skipper, who normally fished alone, put to sea every day, weather permitting, to check his creels and retrieve any catch. He had fished for many years, both on his own and with others, in small fishing boats. On the day of the accident he departed from the harbour and headed off to the furthest creel so that he could work his way back towards home. He never returned.

During the late afternoon, the skipper fell over the side of his boat. The boat was washed up on to rocks, intact and with the throttle still ahead, although the engine had stopped. The skipper's body was retrieved 2 days later, close to where the boat was found.

The skipper was a non swimmer and was not wearing a lifejacket. He had believed that, on balance, he was better off not wearing one, even though family members had tried to persuade him otherwise. He even had prior experience of a 'near-miss', where he was forced to jump out of his boat as it neared rocks without any engine power. Luckily, that time, he landed in water only waist deep, and waded ashore.

The boat had an old bulky lifejacket stowed in the bows, and a lifebelt. However, the lifejacket would have been little use in an emergency, due to its age and poor condition. No VHF radio was carried onboard, although normally the skipper took his mobile telephone. On this occasion he had left it in his car.

The Lessons

1. There is no need for single-handed fishing to be any more dangerous than other types of fishing, so long as a proper risk assessment has been conducted and consequential safety measures put in place. Just because you have not yet suffered an accident, is not grounds for continuing unsafe working practices. Planning for the unthinkable, and carrying the appropriate equipment, will ensure you have every chance of returning home to your loved ones after your fishing trips. Don't become complacent!

2. Wear a lifejacket! It could save your life. There are plenty of different types available which will allow you to conduct hauling and other fishing operations without undue hindrance. Although wearing one is a personal choice, consider, also, the concerns of those around you.

3. There was a regulatory requirement to carry a fixed or portable VHF radio on the vessel involved in this tragedy. A VHF radio, in a waterproof pouch kept on your person, will dramatically improve your chance of survival if you end up in the water. Carrying a mobile telephone is not a satisfactory alternative.

4. There is plenty of guidance and regulatory information freely available from the MCA. Don't wait to be inspected to find out. Take action now and be safe!

Deckhand Dragged Overboard and Lost While Shooting Creels

Narrative

After the last of a fleet of creels had been shot over the side, a deckhand shot a 56Kg drag anchor from the bulwark just forward of the shooting post. The deckhand's right ankle was instantly trapped in a bight of either the back line, or the line securing the anchor to the back line. He was dragged hard up against the top of the steel bulwark. The skipper immediately put the engine astern, and a second deckhand rushed to the wheelhouse to fetch a knife.

The trapped deckhand was pulled over the side within seconds, and quickly disappeared under the water. With the boat stopped in the water, the skipper took hold of the lift line and quickly recovered the anchor via the pot-hauler. Unfortunately there was no sign of the missing deckhand, who was not wearing a lifejacket.

Working deck area showing configuration of back line

The Lessons

1. **Shooting creels is a dangerous business, and the deck layout of many fishing vessels has been altered in recent years to allow fishermen to keep their feet clear of the working ropes. Indeed, in this case, the deckhands were separated from the back-line by pound boards for all of the shooting procedure, other than when the anchor had to be thrown overboard. When precautions are taken, although risk is normally reduced, it is seldom eliminated.**

2. **When working in a dangerous environment, keep an eye on the people you are working with. Two pairs of eyes are better than one.**

3. **Having a sharp knife within arms reach when working on deck is a simple precaution, and one which has saved many lives in the past, and hopefully will do so in the future.**

4. **Even the fittest and strongest of swimmers would struggle to survive in water if badly injured or suffering from the considerable effect cold water can have on the body. In such circumstances, the wearing of lifejackets will not guarantee survival, but it will certainly increase the chances.**

Working deck area showing pound board arrangement

Own Goal

Narrative

While trawling, a vessel's main engine suddenly stopped when her propeller was fouled by discarded fishing gear from a beam trawler. The vessel had to be towed back into port; fortunately there was no damage to the main engine or gearbox.

Photograph of propeller fouled by discarded fishing gear

The Lessons

1. **Throwing worn and unwanted fishing gear over the side might be the simplest way of solving a problem for one vessel, but apart from harming the marine environment, it can also cause serious damage to others.**
2. **Many fishermen already struggle to make a living, and can do without own goals like this. Don't be selfish, think of them, and dispose of all unwanted gear ashore in the appropriate manner.**

Another Unchecked Flooding

Narrative

A modern, steel, 24 metre fishing vessel was towing in deep water with the skipper on watch in the wheelhouse. The high-level bilge alarm sounded. Before going to the engine room to investigate, the skipper woke one of the other four crewmen and told him to go to the wheelhouse to keep an eye on things.

By the time the skipper reached the engine room, floodwater was covering the floor plates and was well up towards the top of the main engine. All handwheels for closing the sea inlet valves were already considerably below water level and inaccessible. However, he noticed a stream of bubbles in the water over one of the main sea inlet strum boxes. This suggested that the cover of the strum box had failed or been displaced.

He returned to the accommodation, alerted the remainder of the crew and told them to assemble in the wheelhouse.

Back in the engine room, the skipper found the water level over the main engine, which then stopped. However, an auxiliary engine, being higher than the main engine, remained running and maintained the 240-volt system.

Recognising the difficulty of the situation, a "Mayday" was broadcast. This was picked up by another fishing vessel only a few miles away, which offered to assist. At this stage the 240volt system failed, suggesting floodwater had reached the level of the auxiliary engine.

All five men donned lifejackets, and a liferaft was thrown overboard and inflated. One man also put on his survival suit. The others also had survival suits, but did not put them on.

By this stage the vessel was listing to 25° to 30° and it was decided that all five men should board the liferaft.

Once the liferaft was clear of the vessel, the survivors were able to watch her sink by the stern. A short while later they were picked up by the fishing vessel that had earlier responded to their "Mayday". All five men were later landed safely, with few ill effects other than some discomfort due to the cold.

The Lessons

1. **High-level bilge alarms are vital pieces of equipment for alerting crews to potentially serious problems. However, unless other important systems are designed so that worthwhile remedial action can be taken, the value of bilge alarms is diminished. In this case, an ability or system to allow sea inlet valves to be closed from a high position, such as by having extended spindles reaching well above floor plate level, could have taken advantage of the warning given by the alarm and stopped the ingress of water.**
2. **Although survival suits were readily available to all five men, only one chose to wear his. All were sufficiently disciplined to wear their lifejackets, but it would have been prudent for them to have linked the need to put on a lifejacket with the need also to put on a survival suit.**

Fire on Unmanned Crabber

Narrative

An 11.85m, 20 year old timber hulled crabbing vessel suffered a flooding incident while alongside her berth. She needed a refit to the machinery and accommodation spaces, part of which required the electrical systems in the engine room to be checked, and water damaged cabling to be renewed as necessary. An electrical sub-contractor carried out this work.

During the work, the electrical sub-contractor noted that the wiring leading from two junction boxes situated in the port forward corner of the wheelhouse, although not damaged by the flooding, was in poor condition. He noted that it had probably been installed by an amateur using non-marine fittings. He recommended that it should be renewed, but the owners were reluctant to take on the extra work and expense, and delay the vessel's return to service. The owners intended to get the wheelhouse wiring fixed by a friend when they had finances available.

The vessel returned to work and had some very successful days fishing during the next few weeks. On one such trip, she returned to port early due to worsening weather, and, being unable to land the catch ashore, the owners decided to leave the crabs on board in the vessel's vivier tank. To keep the crabs alive, an electrical seawater pump was kept running to circulate seawater through the tank. An auxiliary engine located in the forward part of the vessel provided the electrical supply. The owners slept ashore, but were present on board during the following day when they carried out general maintenance. The next day, a Saturday, the owners took off.

The two owners visited the vessel during the day to ensure that the auxiliary engine was running. However, it was merely a cursory inspection from the berth's security access gate; they did not go on board. That evening, a fire was reported on board, and by the time the fire brigade arrived, and had gained access to the berth, the fire had taken hold, burned through the mooring lines, and the vessel had drifted out into the river.

With the assistance of two tugs, a pilot launch, and a fire brigade RIB, the fire was brought under control and eventually extinguished. However, the vessel was later declared a constructive total loss.

The fire brigade investigation determined that the seat of the fire was in the port forward area of the wheelhouse, and was probably electrical in origin.

The Lessons

1. **The auxiliary engine not only supplied power to the seawater pump, but also to other electrical systems, including those in the wheelhouse. During the Saturday, no safety checks were carried out on board. Regular visits and inspections on board the vessel might have alerted the owners to the problem, and the fire might have been avoided. The lesson here is obvious: if machinery has to be left running on an unattended vessel, then regular and thorough inspections should be carried out.**
2. **Only competent electricians should carry out electrical installation work on board a vessel. What may seem adequate to an amateur, might, in fact, not meet accepted electrical standards, and could possibly invalidate the vessel's insurance. All marine electrical systems should be correctly installed using marine components, and should be regularly tested. To do otherwise is courting disaster.**


Port forward bridge

Down the Fish Room

Narrative

A 34m vessel was trawling when one of her crew fell down into the fish room through the open hatch from the deck above.

At the time of the accident, the casualty was on deck in the fish preparation area, helping another crew member. They were transferring empty bins, which were stowed on the deck forward, down into the fish room. Two other crew members were in the fish room ready to receive them.

The additional bins were required below to store the catch. Normally, sufficient empty bins were kept in the fish room, but on this occasion, many were being used to store ice. Whenever extra bins were required, it was usual practice to manhandle them from their stowed position forward, and lower them down into the fish room using a line and pulley attached to the deckhead above the hatch opening.

At the time of the accident, the casualty was pulling on one of the bins which had become lodged behind a fixed pound board. He was standing next to the open hatch when he lost his grip on the bin and fell down the open hatch. He was not wearing a hard hat. The height from the deck to the fish room floor was 4.15m. The deckhands in the fish room saw him fall, but were unable to do anything. He sustained serious injuries to his head and shoulder.

A short time later, he was airlifted off by a helicopter and rushed to hospital. He is expected to make a full recovery following a lengthy period in hospital.

A risk assessment had been conducted and records were kept on board. However, it had been done by a shore-based consultant who had never been to sea on the vessel. Consequently, an assessment of the risks for this operation was never carried out.

The risk assessment did identify the hazard presented by unprotected openings. The suggested control measures were: to exercise extra caution, to have open hatches guarded and to display warnings. However, the risk was considered low and the control measures were not implemented.

Views into and out of the fish hold indicating the distance the casualty fell

Bin being lifted into fish hold

The Lessons

1. Whenever working close to open hatches, always ensure safety measures are in place, such as portable guard rails. If that is not possible, use a safety harness attached to a point which will prevent a person working close to an open hatch from falling down. It's also a good idea to wear a hard hat with a chinstrap, just in case.

2. Contrary to popular belief, the assessment of risk is not a complicated exercise. It requires all concerned in any operation to stand back, for a few minutes only, and consider the risks associated with that particular operation. If hazards are identified, often, simple control measures can be put in place to prevent accidents from happening.

3. The best people to carry out risk assessments are the skipper and his crew. It is they who know their vessel better than anyone else, and it is they, therefore, who are able to more readily identify risks.

Flooding – A Positive Outcome

Narrative

A 10m fishing coble had hauled 5 fleets of gill nets, and was in the process of steaming towards her remaining fleets. Her three crew members suddenly heard a loud clatter at the aft end of the vessel in the area of the propeller. The main engine then stalled.

The skipper restarted the main engine, but the propeller shaft would not turn. At the same time, the crew noticed a substantial ingress of seawater into the vessel through the propeller inspection box cover. The crew believed the damage had been caused by a large piece of floating timber initially striking the propeller and then the underneath of the hull in way of the propeller inspection box.

Immediately, the crew began pumping out the water using two bilge pumps that were fitted to the vessel: an automatic electrical pump with a built-in float switch, and a hand pump.

Meanwhile, the skipper contacted the coastguard and requested assistance. The local lifeboat was launched.

The skipper then instructed the crew to move all the fishing gear from aft to forward, in an effort to lift the vessel's stern as high as possible in the water. This action, along with the use of both bilge pumps, stemmed the ingress of water.

As a precaution, all three crew members donned their lifejackets. The vessel was not equipped with a liferaft.

The local lifeboat arrived on the scene approximately 20 minutes later, and a portable salvage pump was put on board the fishing vessel. She was then towed back to port where she was lifted out of the water, and where a detailed inspection revealed that the propeller and the propeller inspection box had both been damaged. In addition, the splines on the propeller shaft, connecting it to the gearbox, had sheared.

View of propeller

The Lessons

1. The fact that this vessel was fitted with two independent operational bilge pumps, combined with the skipper's excellent management of the incident, particularly in relation to the redeployment of the fishing gear, was an important factor in preventing the vessel from foundering. The use of both pumps kept her afloat until help arrived in the form of a high capacity salvage pump, provided by the rescue services.

2. Although not needed during this incident, and not required by law, the carriage of a liferaft on this fishing coble would have been prudent. Statistics clearly show that liferafts save lives; had the vessel foundered, the three men would have ended up in the water – and at the mercy of the sea.

3. A four-person liferaft, stored in a portable valise or container, can be hired for a nominal annual charge. This is a very small price to pay for a piece of kit which may one day save your life!

Fire-Fighting Training Saves the Day

Narrative

A 13.6m steel construction beam trawler was fishing off the south coast when her skipper noticed back smoke coming from the engine room ventilators. As he "cracked" open the engine room hatch, he was confronted by dense black acrid smoke. He closed the hatch immediately and alerted the crew.

Conscious of the need to isolate the oxygen supply, and potential fuel supply to the fire, he blocked the engine room ventilators, and shut down the engine room fans, main engine and generator. The skipper re-assessed the situation and considered it safe to "crack" the engine room hatch and discharge two CO_2 extinguishers down the hatchway. This had little effect. He then dogged the hatch closed and alerted his shore manager and the coastguard.

The coastguard helicopter arrived within 5 minutes and, using the on board infrared (IR) equipment, was able to identify to the skipper that the seat of the fire was in the starboard after corner of the engine room. The only equipment in this area was a plastic cased portable high-pressure washer, stowed adjacent the starboard fuel tank.

The lifeboat arrived shortly after and transferred a fire pump, which the trawler and lifeboat crew used to boundary cool the deck area above the fire. After about 10 minutes, the helicopter reported that the heat source was reducing. The deck water had also stopped steaming. The engine room hatch was again "cracked open" and the fire hose directed at the seat of the fire.

When the fire appeared to be extinguished, the skipper cautiously entered the engine room, wearing a lifeline and accompanied by a member of the crew, and dampened down the area. Following a damage assessment, the generator and fans were re-started and the remaining smoke cleared.

After further checks, the main engine was started, fishing gear recovered and, under her own power, the trawler returned to her home port.

The trawler engine room suffered significant smoke staining, some electrical fittings in the vicinity of the fire were badly damaged and there was a large area of damaged paintwork. The high pressure water washer was completely destroyed.

The Lessons

1. Having recently attended a fire-fighting course, the skipper was able to effectively and calmly assess the risks and tackle the fire confidently during this potentially catastrophic incident. He fully appreciated the need to isolate the air and additional fuel supply from the fire.

2. Although the trawler was not fitted with dedicated ventilator closures, the skipper used his initiative in utilising materials to further isolate the air supply. He also recognised the need to boundary cool the deck in the vicinity of the fire to reduce the heat required to sustain the fire. The benefits of being properly trained in fire-fighting techniques clearly influenced the manner in which the skipper dealt with the fire.

3. The co-ordination of the helicopter IR facilities, lifeboat, and trawler crew resources was first class, and undoubtedly prevented the fire from spreading, with the possible loss of the vessel.

4. Extreme caution must be exercised when accessing a compartment where a fire has occurred, or the condition of the compartment is unknown, in case the sudden air supply causes re-ignition. In addition, where it is suspected that combustion-related toxic fumes might exist, the compartment should be accessed wearing breathing apparatus – even after it has been ventilated.

5. Portable electrical appliances should be fully isolated when not in use, unless directed otherwise in the manufacturer's instructions.

Part 3 – Leisure Craft

All of us who take small craft to sea, whether for recreation or commercially, are relieved not to appear as a 'case study' in this publication.

We all make errors of judgment and occasionally the boat's equipment lets us down. Fortunately in small craft the result is usually embarrassment and, if unlucky, a trip to the chandlers, however where the outcome is more serious it is invaluable for us to study the reasons.

The RYA regularly uses these reports as a basis for discussion at its many conferences for commercial and amateur yachtsmen. Many of the lessons apply equally to sail and power skippers, both inshore and offshore.

Occasionally, the RYA syllabus is revised as a result of an MAIB investigation. Following the publication of the report of the inversion of the yacht *Ocean Madam* in the Bay of Biscay, a basic knowledge of stability was introduced into the Yachtmaster shorebased syllabus.

The smallest of mishaps can sometimes trigger a sequence of events that can lead to the tragic outcomes seen in the following pages. Good seamanship is about knowing what to do in a variety of circumstances. Equally important is knowing what not to do. Good training and these pages provide an insight into both options.

Jon Mendez
RYA Chief Power/Motor Boat Instructor

Jon's keen interest in boats started at a young age with friends and family, motor cruising on the River Thames. He has run a successful business and has spent time employed as a freelance instructor on the south coast. Between 1990 and 1992, Jon worked full-time for Sealine Sea School on the River Hamble. He is now Chief Power and Motorboat Instructor for the RYA, where he is responsible for the training course content and instructor training for motor cruising, powerboating, inland cruising and personal watercraft. He is a Yachtmaster instructor and examiner, and is also a powerboat trainer.

Three Family Members Lost on Angling Trip

Narrative

On a bright, warm, summer day, four members of one family and a family friend launched a recently bought, second hand, 15' speedboat in a sea loch for an angling trip. The owner of the boat, who had brought his father and two sons along, had minimal boat handling experience, so had requested the friend to accompany them and provide advice.

The safety equipment on board was limited to a spare outboard engine, three lifejackets and three flares. The owner also had a buoyancy jacket and he carried a mobile telephone. The others onboard wore mostly lightweight clothing.

After launching in the morning from the western shore of the loch, they motored out to the entrance, searching for fish with a finder. After fishing to the west of the loch entrance in the morning, they crossed to the eastern shore in the afternoon and began drift angling.

By late afternoon, the weather conditions had begun to deteriorate. They had a good catch of fish and, as one of the sons had begun to feel seasick, they decided to make their way back.

The family friend was at the helm. As they headed into the choppy sea they saw a ferry leaving the ferry terminal within the loch. Aware of the problems associated with wash waves from the high-speed and conventional ferries that operated through the loch, they held back until the ferry had passed. They rode the wash and, probably, took some water over the bow.

They speeded up and continued to cross the loch, but a little time later, when nearly midway across, they were swamped by several waves that came over the starboard quarter. Although the bilge pump was started, and two of those on board attempted to bail out the water using fish boxes, the boat was unable to withstand the additional weight of the water and it sank rapidly by the stern. As it sank, the father hurriedly put lifejackets on his sons and attempted, unsuccessfully, to make a telephone call.

The boys' ill-fitting lifejackets inflated, and they and their father began to drift away from the grandfather and friend, under the influence of the wind. The bow of the boat then bobbed up, and the grandfather and friend were able to tie themselves to it with a rope.

Although a number of ferries and other craft passed quite close to them, it wasn't until nearly 4 hours later that the grandfather and friend were seen by a passing yacht. The water temperature was 10°C.

An extensive search for the father and sons began immediately, and about an hour later, the bodies of the father and one son were found, along with the two lifejackets. The other son's body was not found until nearly 6 weeks later.

Photographs of the boat

The Lessons

1. The boat, which was nearly 30 years old, had had multiple owners and had been modified and poorly repaired such that it no longer met the original design criteria. Many boats like this are for sale on the second-hand market, and their condition is not regulated. A boat can inadvertently become a death trap when modifications are carried out inexpertly. Before buying a second-hand boat make sure you know:

   - the boat's history
   - that it is suitable for the intended purpose, and
   - that any repairs or modifications have been carried out by a competent person.

   If you are unsure about any of the above, DON'T buy it – no matter how much of a bargain it might appear to be.

2. In this case, the new owner took the boat out fully loaded into what was, effectively, open sea conditions on its first trip. It would have been prudent to have experimented with it first, in a controlled and sheltered environment, to establish its capabilities. Sensible preparation, particularly on a previously untried boat, will pay dividends if an unexpected event occurs during the trip.

3. The group did not take adequate lifesaving equipment on the trip, and what they had was not used to good advantage. Lifejackets should have been available for each of the crew – and they should have been worn. Accidents occur even in benign conditions, and it is often too late to don lifejackets properly after the event. Plentiful advice is available from various sea safety organisations. The RNLI provides a free safety equipment advice service (SEACheck), and will come to you. All you have to do is call them (0800 328 0600).

4. A mobile telephone has reception limitations, especially when used offshore, and there can be crucial delays in connecting to the coastguard. A marine VHF radio allows for direct communication in an emergency, and is the recommended communication method. Be prepared, use the proper communications equipment, and make sure that you can contact the emergency services and other vessels if needed.

5. Although the weather conditions at the time of launching were benign, the sea temperature was cold. The two survivors, who were wearing lightweight clothing, said later that their extremities had numbed soon after immersion. The dangers of cold-water immersion, such as cold water shock, are commonly misunderstood. Although survival times depend on different criteria, and can vary considerably, research indicates that only 50% of fully clothed men can be expected to survive more than 2 hours in a water temperature of 10C. Warm clothing and buoyancy aids help to prolong the survival times.

6. Operating a small craft near main shipping routes should only be undertaken with caution. Wash waves, that are hazardous to small craft, can be produced by large vessels, particularly high-speed craft. These wash waves can be particularly dangerous in shallow water or on the shoreline. Wash waves can also be a problem in deeper water if they approach a vulnerable craft from astern. Be alert to the problem and take appropriate action.

7. If you do not know the sea area in which you intend to use your boat, take advice from the local RNLI, harbourmaster or boating club. And/or gain experience of the area with qualified boat users through boating clubs or other similar organisations.

Leisure Craft and Commercial Vessels – a Conflict of Interests?

Narrative

A sailing club arranged a two day Open Race Meeting, which was held over a summer weekend, and which involved some 80 RS Class racing dinghies. The open water was accessed via a busy river channel that was also used by fishermen, other pleasure craft and was subject to frequent car/passenger ferry sailings. The sailing club advised the ferry company of the rough areas of intended racing about a month before the event, but did not identify the "box" co-ordinates.

Two courses were set up to the east and west of the river channel entrance. During the first day's racing, the sailing club carefully moved the racing marks, having taken due note of the courses the ferries were taking. One ferry, however, passed close to one of the marks and had cause to raise concern about the position of the mark with the race officers in the safety boat. This concern was also raised with the sailing club the following day.

On the second day of racing, during the flood tide, the marks were reset with the agreement of one of the ferry masters, although there were no records of these co-ordinates. Later that day, on an ebb tide and in good visibility, a ferry was making her regular crossing when she inexplicably passed inside one of the racing marks, having taken a slightly more westerly course than normal.

At about the same time, a dinghy rounded the mark, and in doing so became dismasted. The ferry master appeared to be concentrating on avoiding the racing marks that he believed were on his course, when he suddenly became aware of a large number of dinghies on a course crossing ahead. Astern power was applied and three short blasts sounded. The ferry was quickly surrounded by the fast racing yachts; they had to take avoiding action to prevent colliding with her.

Fortunately there were no casualties.

The Lessons

1. **Regular meetings between water space users (ferry companies, sailing clubs, harbour commissioners etc) will help all parties to appreciate individual needs and help resolve conflicting interests.**

2. **During occasions when there are large sailing races, careful consideration should be given to posting lookouts on passing vessels.**

3. **When proposed racing area information is passed to interested parties, it is extremely helpful to include the "box" co-ordinates so that concerns can be raised, especially where these are in close proximity to regular ferry routes.**

4. **Whenever possible, racing marks should be positioned well clear of regular ferry routes, and sometimes it may be appropriate to agree a temporary "no go zone" for both ferries and yachts during large regattas.**

5. **Inviting ferry masters to participate in dinghy racing, and yachtsmen onto the bridge of ferries during a busy yacht race, enables both parties to appreciate each other's concerns and to see the "landscape" from a different perspective.**

Fishing for Disaster

Narrative

An amateur fisherman and his teenage neighbour set out on a pre-dawn mid winter fishing trip in a recently acquired and repaired, 5 metre long, relatively old speedboat. They launched in a relatively sheltered area, but had intended to move out to a more exposed position on the coast to fish. They wore warm clothing, waders and old solid buoyancy aids. They also carried a spare outboard engine and a torch.

When the two men set out, within the sheltered area a 25 knot wind was blowing, gusting to 35 knots, there was a significant wave height of 0.8m and the sea was between 6 and 8°C. The tide was on the ebb.

About 40 minutes after launching the boat, a 999 call was made from the fisherman's mobile telephone. The caller requested the telephone operator to put him through to the coastguard. He provided no information to the operator on his location.

The call was quickly transferred to the local coastguard station, but the station officers could hear only the noise of the wind and sea during the brief remaining time of the call. They attempted to return the call, but without success. Without any further information available, and bearing in mind hoax and accidental calls are not uncommon, no further action was taken.

Later that day, the family of the fisherman raised the alarm that he had not returned at the expected time. A large-scale search and rescue operation began immediately, involving many search and rescue units over a considerable area. Only scant information was available on the probable destination of the fishing trip, and the length of time involved between the two men launching the speedboat and the time of the alarm being raised, meant that the area to be covered by the search units was extensive. Despite the efforts of the rescue services, the search was unsuccessful, and the two men were not found.

A day and a half later, a buoyancy aid was found washed ashore, which was identified by the family of the fisherman. About 10 days later, the body of the teenager was washed ashore, still wearing his buoyancy aid and chest-high waders.

The fisherman and his boat are still missing.

The Lessons

1. The fisherman and his friend were inexperienced in boat operations. The boat's history was unknown; what is known, however, is that repairs had been carried out to its hull and engine. Without any trials having been carried out in a safe environment, it was launched in darkness, in mid winter and in poor weather conditions. Also, the boat did not carry the required navigation lights. The decision to launch it was, at the very least, unwise.

2. Survival equipment consisted of warm clothing, old solid buoyancy aids and a torch. Additionally, a spare engine was carried on board. The waders that were worn, probably to protect the fishermen from the cold and sea spray, would have counteracted any useful buoyancy afforded by the old buoyancy aids. The boat was not properly equipped for the planned activity.

3. A relative had been told when the two fishermen were expected home, about 10 hours after their launching time. This alerted the coastguard to their plight and is good practice. It would have been better, however, if the skipper had agreed to call in every hour throughout the day.

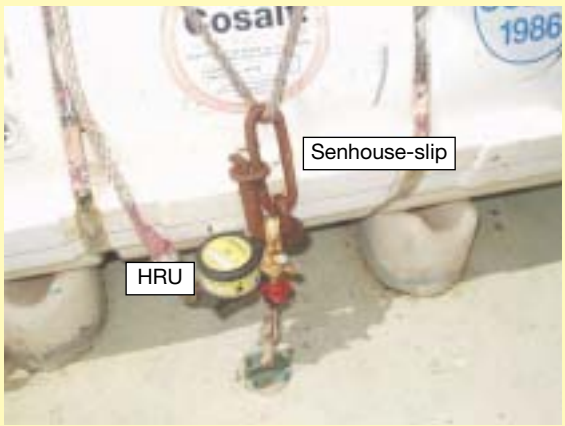
4. The mobile telephone was the only method of communication available to the pair. This was inadequate and is not advised for maritime use because it causes genuine difficulties for the emergency services. A VHF radio can transmit emergency calls via channel 16 (the emergency channel) directly to the coastguard, and a quick response can be assured. Other methods of raising the alarm include personal locator beacons, which are readily available and are becoming increasingly cheaper.

5. The RNLI provides a free, friendly and confidential sea safety advice (SEACheck) service, which is available countrywide through a system of co-ordinators and volunteers. This service can provide guidance on effective lifesaving apparatus (LSA), and other equipment that would prove useful in different sea conditions, as well as distress and emergency procedures. Other free guidance for leisure craft users is available from the Maritime and Coastguard Agency (MCA).

6. It's not always easy to cancel a planned and eagerly awaited fishing trip at the last moment, but commonsense and good seamanship must prevail. The decision to launch should be based on such things as the weather, sea conditions, experience of the crew, state of the boat and adequacy of the equipment. When difficult decisions need to be taken, never ever forget that the power and danger of the sea should be respected at all times.

MAIB Safety Bulletin 2/2004

Quick Release Arrangements for the Manual Deployment of Inflatable Liferafts



Typical senhouse-slip arrangement

The MAIB's preliminary examination into the circumstances leading to the loss of a crabber, identified a potentially serious problem with the manual release arrangements for liferafts fitted to fishing vessels.

It is the custom to lash liferafts to the deck of fishing vessels, using rope or webbing straps. Hydrostatic release mechanisms are fitted to the lashing to allow the raft to automatically float free and deploy from a sinking vessel. However, the rope or webbing lashing is also usually fitted with a quick release, senhouse-slip arrangement to facilitate rapid deployment of the raft in the event of an emergency.

When the crabber began to flood, her crew found it impossible to release the liferaft from its lashing using the senhouse-slip arrangement. The crew eventually released the raft by cutting the lashing with a knife.

As a consequence of the problem experienced by the crabber's crew, the MAIB commissioned a survey of the lashing arrangements for liferafts on board a number of fishing boats docked in one of the busiest UK fishing ports. The results of the survey revealed that almost one third of the senhouse-slip release arrangements that were inspected could not be easily released to allow rapid deployment of the liferaft.

Unfortunately, it is not possible to give guidance on the specific type or condition of senhouse-slip that would indicate potential problems – to quote the person who conducted the inspections on behalf of the MAIB *"….the only conclusion I can draw is that there is a potential problem which cannot be covered by blanket action. Some of the most rusty horrible senhouse-slips actually were quite easy to remove, whilst other modern stainless steel ones proved difficult or impossible to remove…".*

Although the above problem was found to exist on fishing vessels, it should be noted that many merchant and pleasure vessels use senhouse-slip quick release arrangements to secure liferafts. It is therefore highly likely that these types of vessel may experience difficulty when attempting to manually release liferafts in an emergency.

Recommendation

Owners and skippers of all fishing, merchant and pleasure vessels should urgently review the lashing arrangements for liferafts fitted to their vessels, to ensure that any manual quick release arrangements can be easily operated as intended. In the event that, on inspection, difficulty is experienced in releasing the lashings from liferafts, the quick release arrangements should be examined and, if required, replaced at the earliest opportunity with a more suitable release system. Ship chandlers or liferaft suppliers should be able to provide advice or assistance in this respect.

Preliminary examinations started in the period 01/07/04 – 31/10/04

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
25/07/04	*Boy Andrew*	Fishing vessel	UK	4.01	Flooding/foundering
07/08/04	*Kathryn Jane*	Fishing vessel	UK	10.11	Missing vessel
17/08/04	*Stena Lynx III*	Ro/ro passenger	UK	4113	Fire
27/08/04	*Stena Pioneer*	Ro/ro passenger	Bermuda	14426	Fire
07/09/04	*Vanguard*	Tug	UK	296	Grounding
10/09/04	*Fort Victoria*	Naval Support	UK	28821	Acc. to person
11/09/04	*Maanav Star*	General cargo	India	11750	Grounding
16/09/04	*Viking Victor*	Safety Standby	UK	536	Fire
27/09/04	*Odin*	Dry cargo	Antigua & Barbuda	2997	Collision
	Kovera	General cargo	Russia	1596	
30/09/04	*Silver Quest II*	Fishing vessel	UK	119	Flooding/foundering
02/10/04	*Sunrise* *Ocean Dawn*	Fishing vessel Fishing vessel	UK UK	201 224	Collision
05/10/04	*Faith Ann*	Fishing vessel	UK	49	Grounding
09/10/04	*Sea Challenger*	Dry cargo	UK	6418	Capsize/listing
14/10/04	*Swan*	Passenger	UK		Capsize/listing
18/10/04	*Balmoral*	Passenger	UK	735	Contact
20/10/04	*Chainat Navee*	Dry cargo	Thailand	15938	Fire
25/10/04	*Anglian Way*	Ro/ro cargo	Panama	7628	Grounding
25/10/04	*Gonpez I*	Fishing vessel	UK	271	Acc to person
31/10/04	*Border Heather*	Tanker	Isle of Man	2159	Fire

Investigations started in the period 01/07/04 – 31/10/04

Date of Accident	Name of Vessel	Type of Vessel	Flag	Size	Type of Accident
30/07/04	*Daggri*	Ro/ro cargo	UK	1861	Grounding
10/08/04	*Coral Acropora*	Liquid gas carrier	Netherlands Antilles and Aruba	3096	Escape of harmful substances
22/08/04	*Albatross*	Sail training	Holland	170	Acc. to personnel
30/08/04	*Dieppe*	Ro-ro passenger	France	17672	Grounding
01/09/04	*Jackie Moon*	General cargo multi deck	Antigua and Barbuda	1616	Grounding
10/09/04	*Fort Victoria*	RFA Naval support	UK	28821	Acc to person
20/09/04	*Nordstrand*	General cargo	UK	1970	Acc. to personnel

Reports issued in 2004

Breakaway 5 – capsize of *Breakaway 5*, River Bure, Norfolk on 19 July 2003
Published 12 February 2004

Chelaris J – investigation of the capsize and sinking of the fishing vessel *Chelaris J* and loss of all crew members, Banc de la Schole (near Alderney) 1 October 2003
Published 16 July 2004

Chelaris J – French version of above report sent 12 August 2004

Dart 8 – injury to person while vessel berthing at Europort Terminal, River Thames on 21 March 2004
Published 30 September 2004

Donald Redford – investigation of the aggregates dredger *Donald Redford* colliding with Hythe Pier, Southampton Water on 1 November 2003
Published 6 May 2004

Elegance – investigation into 2 engine room fires, subsequent flooding and foundering of the fishing vessel *Elegance* 30 miles north-west of Shetland on 30 January 2004 and 8.5 miles west of Shapinsay on 5 March 2004
Published 11 August 2004

Elhanan T - flooding and foundering of the fishing vessel *Elhanan T* on 14 August 2003
Published 4 March 2004

HC Katia – investigation of the grounding of HC Katia while undergoing sea trials in the Solent on 3 December 2003
Published 30 July 2004

Hoo Finch/Front Viewer – investigation into the near collision between *Hoo Finch* and *Front Viewer* off the River Humber on 25 February 2004
Published 25 August 2004

Loch Ryan – swamping of unnamed cabin cruiser in Lady Bay on Loch Ryan, 3 September 2003, and associated wave generation issues
Published 22 April 2004

Loch Ryan – swamping and foundering of a 4.6m grp open sports boat with the loss of three lives on Loch Ryan south-west Scotland 12 July 2003
Published 22 April 2004

Reno and ***Ocean Rose*** – collision off Whitby, North Sea
Published 12 October 2004

Scot Venture – contact with number 16 buoy, Drogden Channel, Denmark on 29 January 2004
Published 15 September 2004

Trident VI – investigation of grounding of the inter-island passenger vessel *Trident VI* in Percée Passage, off Herm island near Guernsey in the Channel Islands 23 August 2003
Published 30 January 2004

Annual Report 2003 Published June 2004

Leisure Craft Safety Digest Published January 2004

Safety Digest 1/2004 Published April 2004

Safety Digest 2/2004 Published August 2004

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