MARINE ACCIDENT

INVESTIGATION BRANCH

Summary of Investigations No 1/92

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This summary contains facts which have been determined up to the time of issue. This information is published to inform the shipping industry and the public of the general circumstances of accidents and must necessarily be regarded as tentative and subject to alteration or correction if additional evidence becomes available.

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INTRODUCTION

In previous editions of the Summary of Investigations, the introduction has tended to include a message to the readers; a message which, if understood and taken to heart and most importantly put into practise, would help reduce the number of accidents. Subjects which have been covered hitherto include the use of commonsense, the advantages of good management, and that Merchant Shipping Notices (M Notices) are published to be read, not just to adorn the bookshelf in the company's offices or the chart room. The messages contained in the introductions are intended to supplement the main messages in the various summaries, which are of course those important lessons to be learnt.

In this edition there are ample lessons to be learnt concerning all aspects of safety, many of which will not be new to you. However, it is not intended to carry a further "lesson to be learnt" message in this introduction but to use the opportunity to clear up a question which is often asked: what are the different levels of investigation undertaken by MAIB?

Firstly there is the Inspector's Inquiry, which is undertaken in the most serious cases. These investigations are always led by a Senior Inspector, and result in a Chief Inspector's Report being submitted to the Secretary of State for Transport which is then published. An example is the collision between the dredger BOWBELLE and the passenger launch MARCHIONESS on the River Thames in August 1989.

The next level is an Inspector's Investigation; this involves the Inspector making field visits to the ship and possibly the owner and other interested parties during which either declarations or statements are taken. The outcome of these investigations may be the publication of a separate Report, an example being the loss of the fishing vessel PREMIER in December 1990, or possibly a summary report for inclusion in this publication.

The third level is an Administrative Inquiry which is used in the greater number of cases. This involves an exchange of correspondence between MAIB and the interested parties, possibly including the completion of a questionnaire, to establish details of the accident, but it does not involve the Inspector making field visits. However, one should not be misled by the title into thinking it does not involve the Inspectors. Although the administrative staff in MAIB handle the correspondence, an Inspector reviews all the correspondence and invariably poses the questions which need to be asked and determine further action as appropriate. A number of the summaries in this publication are the result of Administrative Inquiries.

It is hoped that this explanation has helped readers to understand the various levels of investigation.

An additional item in this edition may be found in Appendix B which lists MAIB publications obtainable from HMSO. It is only these Summary of Investigations which are free distributions; all other MAIB publications have to be purchased through HMSO or good booksellers. The list will be updated in future editions of the Summary of Investigations.

Chief Inspector of Marine Accidents
April 1992

1. SEAWATER COOLING SYSTEM FAILURE RESULTING IN ENGINE ROOM FLOODING

Narrative

A 4000 gross tonnage suction dredger, propelled by two 3722 kW engines each driving a controllable pitch propeller was in a position 11 miles east of Harwich with a crew of 14 on board, when it was discovered that she was taking water in the engine room.

The ship side valves were closed. This action stopped the ingress of sea water, though it also resulted in the propulsion and alternator systems being shut down. To reduce the vessel's displacement the cargo of dredged aggregate was dumped.

Following a request by the Master the RNLI Harwich lifeboat arrived and provided a portable pump. With this and the vessel's small portable submersible pump a start was made to reduce the flood water in the engine room. The alternator's seawater cooling system suction pipe was disconnected and a temporary pipe was fitted so that the alternator could draw cooling water direct from the engine room bilge. This operated successfully and the level of sea water in the engine room was significantly lowered.

The cause of the leak was identified to be in the starboard main engine seawater cooling system. The leak was isolated, enabling the port engine to be restarted and then the vessel was able to make safe passage to port for repair.

Observations

On inspection it was discovered that a 1.7 metre straight length of 100 millimetres (mm) bore copper seawater piping running from the seawater circulating pump discharge, under the main engines to the starboard main engine cooler had fractured. Further inspection found that there was heavy internal erosion in way of the fracture, the wall thickness had been reduced from an original 2.5mm to less than 0.5mm in places. The erosion was probably caused by the movement under operating conditions of the considerable amount of sand and marine growth (mussels) that were found in the seawater pipe work.

Comment

1. The action taken by the crew illustrates they understood the functions and detail layout of their ship. The temporary cooling water supply to the alternator proved to be effective and resulted in a recovery from the flooded condition, enabling the vessel to reach port under her own power.

2. Merchant Shipping Notice No M.1361 highlights the dangers of flooding and recommends general operational procedures to be followed to reduce the risk of flooding.

2. CONTACT BETWEEN RO-RO FERRY AND HARBOUR BREAKWATER

Narrative

A ro-ro ferry was making an entry into port at the end of a scheduled run. As the vessel was about to enter the port the Master ordered a large course change to enter harbour. The helmsman had to use full rudder and the vessel responded correctly but when the wheel was eased back from the hard-over position the rudder immediately went hard over in the opposite direction and brought the vessel back onto the original course. It was then noted that the off-course alarm was sounding and realised that the vessel was still in automatic pilot. This was corrected but the vessel was so close to the breakwater that contact with it could not be avoided. There were no injuries to passengers or crew but the vessel suffered considerable damage and had to be withdrawn from service.

At the time of the incident it was a dark night, with calm sea and good visibility.

Observations

1. The bridge of the vessel was well manned by the Master, certificated officers, and two seamen.

2. The helmsman had been stationed at the wheel well before arriving off the harbour entrance. Because of the calm sea he was not required to make any major rudder movements and so did not realise that he was not in control of steering.

3. The usual practice in this ship was for the helmsman to change to manual steering when he took over the wheel on the vessel approaching harbour. The Officer of the Watch assumed without checking that this had been done; but it had not, because the helmsman on this occasion was not familiar with the system.

4. The change-over selector between manual and automatic steering was not illuminated, and there was no other indication as to which mode the steering was in.

5. The automatic steering allowed for emergency override of the auto-pilot if the wheel was put in the hard-over position.

6. Though the off-course alarm sounded when the vessel was about 10° off the original heading it was not identified immediately. It was at first thought to be a navigation light failure alarm and then an alarm from the fire detection system.

7. There was a check-list system in operation which was intended to ensure that all the bridge systems were ready before entering port.

8. The officer responsible for the check-list was distracted from this duty and did not complete it. This did not prevent the vessel from being allowed to proceed in to the harbour, because there was no requirement for a positive report that the checks had been made.

9. The check-list system was started so late that even if it had been completed the vessel would probably still have been too close to the harbour entrance to allow effective corrective action to be taken.

Comment

1. Statutory Instrument No 571, The Merchant Shipping (Automatic Pilot and Testing of Steering Gear) Regulations 1981 states that it is the Officer of the Watch who is responsible for ensuring the correct changeover from automatic to manual steering.

2. The same Statutory Instrument also emphasises the need to test that the manual steering is operating correctly. The use of automatic pilot is also covered in Merchant Shipping Notice No M.1471 issued December 1991. A point highlighted in the Notice is the need for personnel to be familiar with the change-over system.

3. There should be means to positively identify which mode of steering system is in use. This can be achieved by ensuring the switch or other form of indication is illuminated and readily visible.

4. A check-list is of great use but only if it is completed and reported on in sufficient time to allow any problems to be rectified. Negative reporting is in most cases a dangerous practice - positive procedures should be adopted when reporting on safety related matters.

5. The various alarms used at a control station should be readily and singularly identifiable to ensure as far as is practicable that in an emergency situation there is no confusion as to which alarm is being activated.

6. Action has been taken by the owners to prevent a similar accident in the future.

3. CONTACT DAMAGE TO A PASSENGER VESSEL

Narrative

A passenger vessel of 27,670 gross registered tonnage was being navigated to a riverside berth in thick fog. She had on board two pilots, one of whom had the con. The visibility was about 90 metres. The ship was stemming an ebb current of up to six knots and tugs were waiting up river, ready to assist the vessel into her berth.

The pilot who had the con was navigating by radar and he spoke to one of the waiting tugs by VHF radio. The pilot, who had seen the tug visually, asked if she was standing by off the corner of an angled jetty, which the passenger vessel would pass on her way to the berth. The tug replied in the affirmative. The pilot then asked the Skipper of the tug to remain in that position, his intention being to pass the tug and the jetty on the starboard hand (see sketch).

A little later an officer on the forecastle of the passenger vessel reported that a tower situated on the head of the jetty was fine on the starboard bow and that the vessel appeared to be setting towards it.

Despite rapid and full power manoeuvres the passenger vessel contacted the outer knuckle of the jetty, sustaining hull damage. Before the contact, the tug which the pilot had spoken to earlier was seen by the inner knuckle and going full astern to increase her distance from the approaching passenger vessel.

Observations

1. The pilot had thought that the tug was off the outer knuckle when in fact it was off the inner knuckle. Consequently the course which the pilot then steered did not clear the north east corner of the jetty. The strong river current set the passenger vessel on to the outer knuckle. Fortunately the damage was above the waterline and there were no injuries.

2. The bridge manning of the passenger vessel included two experienced senior officers, a navigator and the two pilots.

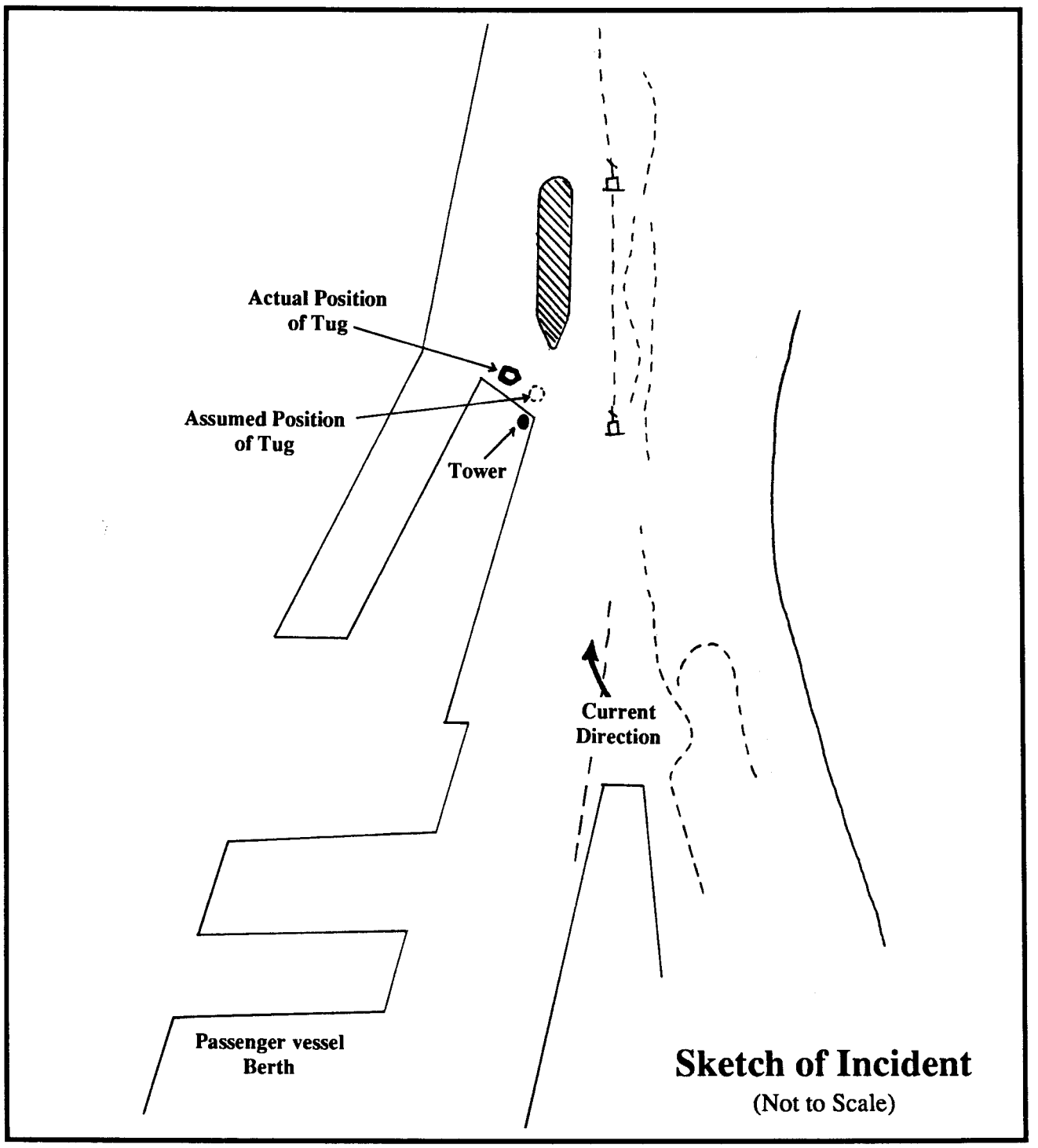
Comment

1. This incident highlights the need for caution when using inter-ship communications in restricted visibility.

   Merchant Shipping Notice No M.845 draws attention to the uncertainties that can arise over the identification of vessels and the interpretation of information received. It states that "An imprecise, or ambiguously expressed message can have serious consequences".

2. The ship's bridge staff should maintain an accurate check of the vessel's position and movement, whether or not the pilot has the con, and the intentions of the pilot should be fully understood. This advice is given in Merchant Shipping Notice No M.854.

3. The jetty would have presented a clear return on the radar and 'parallel indexing', as recommended in Merchant Shipping Notice No M.1158, could have avoided the accident.



4. ENGINE ROOM FLOODING

Narrative

An oil rig standby vessel suffered from a flow of water into the engine room whilst on station. All attempts to pump out the bilges using the ship's own bilge and ballast pumps, and portable pumps supplied by rescue services, failed to prevent the water rising over a period of three hours, causing power failure and complete flooding of the engine room.

Once the vessel had been towed to port, its ship's side valve openings plugged, and the engine room pumped out, it was found that the direct emergency bilge suction valve on one of the main engine seawater cooling pump inlets was open. On inspection it was found that this valve was of the screw lift type and not of the required non-return type. It was judged that the flood water had entered through this valve. Further, all other bilge suctions in the engine room were found to be choked with debris.

None of the ship's engineers, who had joined the vessel a few days before the incident, were sufficiently familiar with the bilge system to explain how, or why, the main seawater pump direct emergency bilge suction valve had been opened.

Observations

1. Clearly a valve lid of an incorrect type had been fitted to the emergency bilge suction valve.

2. No engineer on board thought of using the direct emergency bilge suction line to pump bilges; the very system through which water was entering the vessel.

3. The vessel remained afloat, and retained sufficient stability, to be towed to port in poor weather conditions - wind Force 5-6.

Comment

1. Having recently joined the vessel the engineering staff were not familiar with the layout and function of the emergency bilge system. It is vital that new staff quickly become familiar with safety systems and that details of any unusual characteristics of these systems are passed to relief staff.

2. Poor housekeeping allowed debris to choke the bilge pumping arrangements, the proper functioning of which would have at least reduced the rate of flooding and given the ship's staff more time to identify the problem.

3. It is unfortunate that no attempt was made to use the main engine sea water pump direct emergency bilge suction, as these systems are provided for the very purpose of handling large quantities of engine room bilge water.

5. COLLISION AT THE JUNCTION OF TWO CHANNELS

Narrative

A fishing vessel was proceeding outward bound along the channel from the port of Boston. Her passage involved her having to cross the entrance to the Welland Cut, which leads to the port of Fosdyke. A cargo vessel was approaching from ahead. This vessel was under pilotage, inward bound along the same channel for Fosdyke. The passage to Fosdyke therefore required the cargo vessel to cross the channel from the starboard side to the port side in order to enter the Welland Cut. The fishing vessel started to cross the entrance to the Welland Cut as the cargo vessel was swinging to port. The cargo vessel completed her turn and then collided with the fishing vessel. The latter vessel was pushed into the Welland Cut during which time the Skipper and crew member of the fishing vessel were able to climb aboard the cargo vessel. Fortunately there were no injuries, but the fishing vessel subsequently sank.

Observations

1. It was a dark night and the weather and tidal conditions were calm. The visibility was good.

2. The pilot aboard the cargo vessel had broadcast his intended passage to Fosdyke on VHF radio and then assumed that the Skipper of the fishing vessel would be aware of his intention to cross the channel. The pilot expected the fishing vessel to keep out of the way.

3. The Skipper of the fishing vessel was of the opinion that the cargo vessel was bound for the port of Boston and would therefore keep to the starboard side of the channel and pass port to port.

4. Another vessel was approaching the junction outward bound from Fosdyke and, in order to provide sufficient sea room for this vessel to safely exit the Welland Cut, the pilot of the cargo vessel negotiated a broader turn to port than he would otherwise have wished.

Comment

1. The pilot of the cargo vessel undertook a manoeuvre which was based upon the incorrect assumption that his VHF radio communication concerning that manoeuvre had been heard and understood by those aboard the fishing vessel.

2. The pilot of the cargo vessel failed to take appropriate action at an early stage to prevent a close quarters situation developing with the fishing vessel.

3. The Skipper of the fishing vessel failed to appreciate the changing aspect of the navigation lights of the cargo vessel as she started her turn to port. He gave no consideration to the possibility that the cargo vessel intended to enter the Welland Cut.

6. CARGO SHIFT ABOARD A RO-RO FERRY

Narrative

A 3500 gross registered tonnage ro-ro ferry had a partial load of mixed road vehicles, including some articulated vehicles. The weather on passage was reported as south-easterly storm force 10 with a very heavy swell, causing the vessel to roll violently. The load inside a curtain sided articulated trailer shifted, causing the unit to heel and eventually topple, until it was restrained by the adjacent vehicle. At the same time the cargo lashings on a flat bed trailer broke and the load was shed on to the car deck. A load of baled hay on a third unit also shifted but did not topple over due to the closeness of the adjacent vehicle. Fortunately there was no serious damage, but there were long delays at the destination port while the freight vehicles were pulled upright and reloaded. The photograph shows the curtain sided articulated vehicle before it was righted.

Observations

1. The curtain sided articulated unit with a gross weight of 40 tonnes was lashed only at the front end of the tractor unit on the towing eye, and at the after end of the trailer unit on the rear chassis. The trailer landing legs had been lowered. No side lashings were fitted, due to a lack of securing points on the vehicle.

2. The cargo on the flat bed trailer was secured by inadequate rope lashings.

3. It was discovered upon reloading of the baled hay that the load had been wrongly declared and in fact there was bagged animal feed underneath the hay.

Comment

1. The "Roll-on/Roll-off ships - Storage and Securing of Vehicles Code of Practice", gives details of suitable securing arrangements for vehicles and these should be followed.

2. The above publication also requires an adequate number of accessible securing points to be provided on vehicles to enable proper securing of that vehicle. Shipment should be refused if insufficient lashing points have been provided.

3. Semi trailers should not be supported on their landing legs during sea transport unless they are specifically designed for it and are so marked, and, the ship's deck has adequate strength for the point loading.

4. Curtain sides of vehicles offer very little or no support against a cargo shift, and it must be ensured that the goods inside are adequately lashed.

5. The Code recommends that when carrying cargo on flats, it is effectively secured, preferably with chains or webbing fitted with tightening devices; rope is not recommended.

6. The correct declaration of cargo is essential to ensure that proper securing arrangements are made.


MAX HEADROOM 16 FEET

7. COLLISION AT THE JUNCTION OF TRAFFIC SEPARATION SCHEMES

Narrative

A cargo vessel of 8,519 gross registered tonnage (grt) was on passage to Rotterdam. She was south of the North Hinder light vessel and following the direction of traffic flow in the main eastbound lane. A dredger of 3,498 grt was on passage from the River Schelde to dredging grounds. She was following a north- westerly course across the Junction and was to pass south-west of the North Hinder light vessel. (See figure on page 12). It was a clear night.

The vessels detected each other both visually and by radar at approximately 7 miles apart and saw that they were on collision courses. Each vessel then watched the other's progress, but neither took any avoiding action until they were approximately five cables apart. The dredger then turned to starboard in an attempt to parallel the course of the cargo vessel, which had stopped her engines. These actions were not effective enough and the vessels collided.

Both vessels incurred damage but fortunately there were no injuries. They were able to make port under their own power.

Observations

1. This was a clear crossing case, but the cargo vessel failed to give way because she considered that she had privilege over the vessel crossing the traffic scheme. Founded on this misunderstanding, neither vessel complied with the Collision Regulations as they apply to give-way and stand-on vessels and the use of sound signals. Light signals, which are permitted to supplement the sound signals, were not made.

2. This collision occurred in a Precautionary Area. Guidance notes on such areas are contained in the IMO publication "Ship's Routeing" and on navigational charts.

3. The dredger tried to contact the cargo vessel by VHF as the two vessels approached, the cargo vessel did not respond until very shortly before the collision.

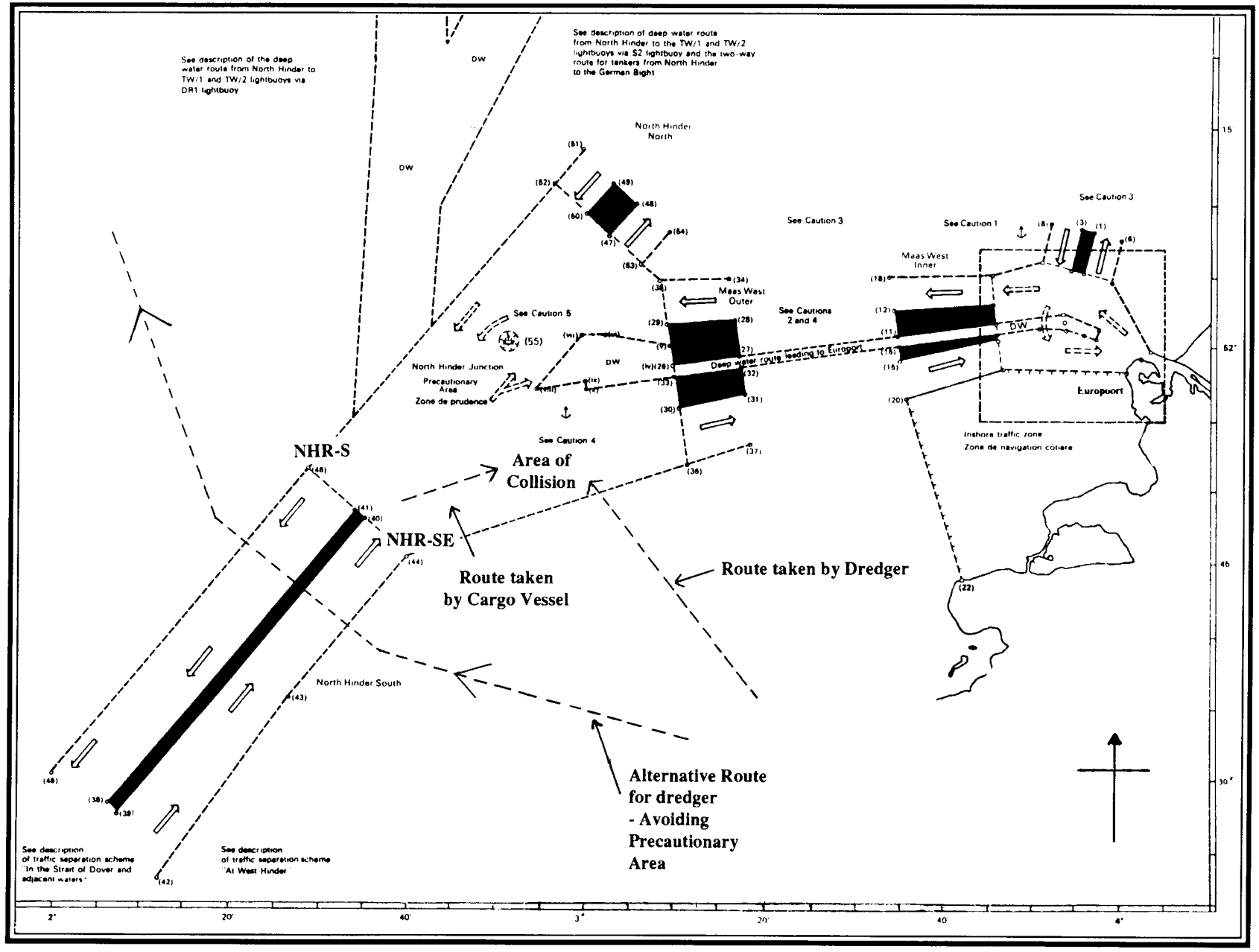
Comment

1. This collision would not have happened if the cargo vessel had complied with Rule 15 (crossing situation) of the Collision Regulations. **The fact of following a traffic lane does not give any privilege over the other vessel.**

2. Rules 8 *(action to avoid collision,)* 16 *(action by give-way vessel,)* 17 *(action by stand-on vessel,)* and 34 *(manoeuvring and warning signals),* of the Collision Regulations state quite specifically the actions which were required in this case. Full compliance with the Collision Regulations is essential for safe navigation.

3. Precautionary Areas are identified on charts because of the special problems that they pose. 'Ships Routeing' states: "Precautionary Areas should be avoided, if practicable, by passing ships not making use of the associated traffic separation schemes or deep water routes, or entering or leaving adjacent ports." In this case it would have been prudent for the dredger to have crossed the traffic scheme south-west of the NHR buoys, and as nearly as practicable at right angles to the direction of traffic flow.

4. Cautionary advice on the use of VHF in collision avoidance is contained in Merchant Shipping Notice No M.845. This advice should always be heeded.



Reproduced from 'Ships Routeing', 6th edition, (sales number IMO-927E)
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8. CONTACT BETWEEN A SUPPLY VESSEL AND AN OFFSHORE INSTALLATION

Narrative

A 918 gross registered tonnage supply vessel built in 1974 was fitted with two main propulsion diesel engines of 5178 kW, driving two controllable pitch propellers, and a low powered transverse thruster unit forward. Control stations for the propellers and thruster were sited both in the navigating bridge and at a station just aft of the bridge. However, the visibility from the aft control station was restricted in the forward direction by the wheelhouse and funnels. The vessel was manned by eight persons including two qualified deck officers, namely the Master and Mate. On the day of the incident the vessel had worked three installations over a period of 5 hours. During the previous two days a total of twenty installations had been worked covering a working period of approximately 33 hours for the Master, who was carrying out all ship handling himself.

The vessel was approaching a complex of gas producing and processing platforms, which were connected to each other by bridges, in order to unload a single container. This operation required the vessel to maintain station close alongside the platform and beneath the crane to be used for the 'snatch' lift. Weather conditions were such that both wind and tide were setting towards the side of the platform which was to be used for the transfer using the platform's crane. Whilst coming alongside the platform the vessel, under the control of the Master at the aft control position, was pushed onto two of the platforms and their interconnecting bridge by wind and tide acting on the vessel's port bow; an area of the vessel which could not be viewed by the Master at the aft control station. Fortunately, damage to both platforms, the connecting bridge and the vessel proved to be minor and there was no pollution.

Observations

1. The vessel appeared to be generally unsuited for its duties, particularly in respect of the limited visibility from the aft control station and the low power of the transverse thrust unit.

2. The number of hours worked by the Master, on duties requiring significant levels of concentration, must be considered as a factor which contributed to this collision.

Comment

1. It should be noted that the responsibility for selecting suitable vessels to support an offshore operation lies with the operator of the offshore installation.

2. This was not a UK registered vessel. Guidance on manning levels of supply vessels, with particular emphasis on workloads imposed on crew members by cargo operations, is given in Merchant Shipping Notice No M.781.

2. An automatic smoke and fire detection system installed in the engine room will ensure an early warning and response to an outbreak of fire. However because of the difficulty of access into the engine rooms of small ships an effective response using portable fire extinguishers or fire hoses supplied by an emergency fire pump, if fitted, cannot be assumed.

The installation in the engine room of a fixed fire extinguishing system as well as an automatic smoke and fire detection system would have distinct advantages.

11. ACCIDENT DURING AN EMERGENCY DRILL

Narrative

An emergency drill was being held in port. A lifeboat, with some 20 persons on board, was bowsed alongside the embarkation deck by means of the davit tricing pennants. The after tricing pennant suddenly parted causing the lifeboat to swing away from the side of the ship. The sudden motion caused a crew member to fall from the lifeboat and into the water between the ship and the quay.

Observation

The tricing pennant parted due to the failure of its associated hemp lashing.

Comment

1. The tricing pennants were only designed to take the component weight of an unladen lifeboat. They should, therefore, have only been used to bring the lifeboat against the ship's side after the lifeboat had been lowered from its stowed position to the embarkation deck prior to embarkation taking place.

2. Bowsing tackles or lines should have been rigged and the tricing pennants should have been slipped before embarkation commenced.

3. The condition of the hemp lashing associated with a tricing pennant should be regularly checked.

4. The number of turns applied to the hemp lashing should be sufficient for the designed working load of the tricing pennant.

12. CONTACT DAMAGE TO OFFSHORE SUPPLY VESSEL

Narrative

A supply vessel, fitted with both bow and stern thrusters, was making an approach to the stern of a semi-submersible drilling rig that was ballasted up and at anchor in sheltered waters. The weather conditions were overcast with continuous rain, but the visibility was good. The wind was force 3 and the tide was setting on to the stern of the rig at about 1½ knots. One container was to be discharged to the rig.

The Master approached the rig bow first from downwind, and uptide, then swung across the tide in order to lie starboard side to the stern of the rig and under the port crane. The vessel then struck an underwater propulsion unit protruding from the stern of the rig.

The rig suffered no significant damage. However the supply vessel was holed in way of a fuel tank, below the water line. Attempts were made to heel and lighten the vessel in order to bring the hole above the water line, and cross pumping arrangements were initiated to try and reduce the amount of oil in the tank. These measures were only partially successful. The Port Authority activated its oil spill contingency plan and took the vessel alongside the local jetty where a floating boom was rigged around the ship to contain the oil. Shore contractors commenced pumping the remaining oil to road tankers. Temporary repairs were then effected.

Before the pollution could be contained approximately 80 tonnes of light diesel fuel leaked into the sea. Pollution was reported along the extensive shore line, and also at a fish farm. Clean up equipment was deployed from three centres around the country. Light diesel fuel, although toxic, will, given the right weather conditions, quickly disperse by natural means. In this instance dispersants were not used.

Observations

1. The Master had not worked this particular rig before.

2. There was no prior exchange of information between the rig and the supply vessel regarding underwater obstructions and mooring arrangements.

3. The Master did not stabilize his vessel's movement relative to the rig before commencing the final approach.

4. The Master lost time consulting with the owners of the vessel before taking any action to stem the loss of oil into the sea.

Comment

1. Information regarding underwater obstructions and anchor patterns is always available on board drilling rigs and this information should be requested prior to making an approach.

2. Before obtaining permission to enter a 500 metre safety zone around a rig, a vessel should formulate a comprehensive plan of how to tackle the approach, taking into account the effects of wind, tidal conditions and currents, as well as any other factors that may affect the approach.

3. If it is necessary to turn a vessel in order to lie alongside a rig, then the turn should be executed where there is still ample sea room. In all cases the final approach speed and direction should be such that effective evasive action can always be taken if the manoeuvre has to be aborted.

4. Masters should remember that correct action, taken speedily, will be most effective in ameliorating the extent of any pollution.

13. ACCIDENT CAUSED BY THE INADVERTENT DISENGAGEMENT OF A LIFEBOAT HOOK

Narrative

Three serious incidents have been reported in recent years with lifeboats installed with lifeboat hooks having disengaging gear similar in design to that illustrated.

In two of the incidents, as a lifeboat was being lowered to embarkation level from its stowed position, one of its hooks was unintentionally disengaged from the lifeboat fall. Pivoting on the remaining attached hook the lifeboat swung into a vertical position causing its occupants to fall into the sea.

On another occasion the lifeboat hook was unintentionally disengaged when the lifeboat was secured in its stowed position. Although the securing arrangement prevented the lifeboat from falling away as the hook disengaged, the sudden movement of the lifeboat caused an occupant to fall out onto the deck below sustaining serious injury.

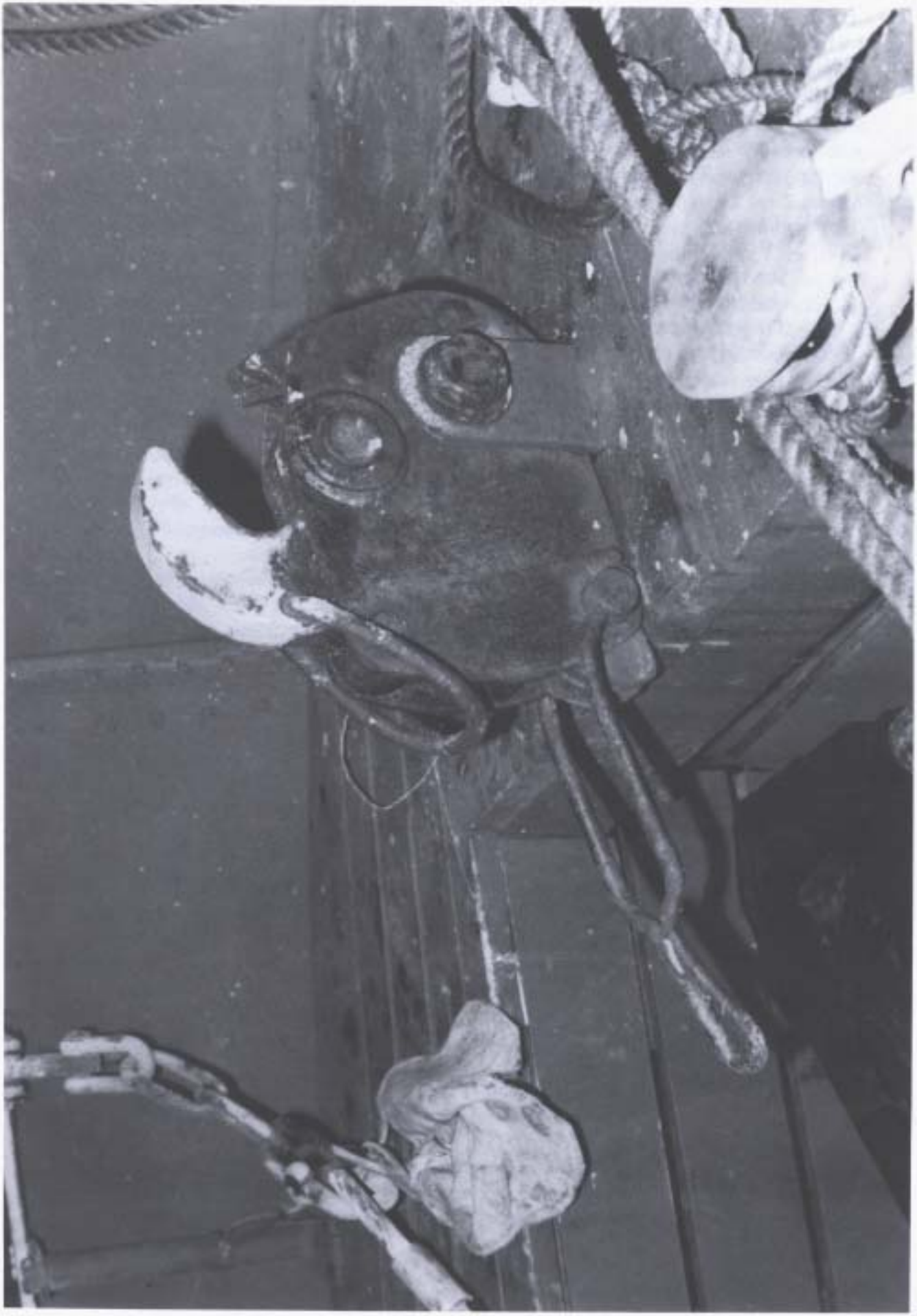
Observations

The hooks in question were of the type designed for on-load release but incorporated none of the safeguards presently included in the 1983 Amendments to Chapter 111 of SOLAS 1974.

Comment

Only disengaging gears approved by the Marine Directorate of the Department of Transport as detailed under Merchant Shipping Notice No M.1440 should be installed. This allows disengaging gear approved directly by the Department of Transport or other gear if it can be shown that it has been approved by an Administration or recognised Classification Society in accordance with the requirements of the 1983 Amendments to the 1974 SOLAS Convention.

Instructions for the safe operation of disengaging gears should be available on board.



14. ACCIDENT WHILST PAINTING ON DECK

Narrative

A crew member was engaged in painting on deck. He was standing on an aluminium ladder which he had lashed to an adjacent pipeline. The lashing parted causing the ladder to slip. The crew member fell and sustained injuries as a result.

Observations

1. The lashing consisted of a length of 6mm diameter plaited polypropylene rope which had been secured to a rung of the ladder by means of a slip knot. The free end of the rope had been passed around the adjacent pipeline and then secured to the same rung using a clove hitch.

2. The rope lashing was subsequently found to be extremely weak. The weakness was caused by:

   2.1 ageing,

   2.2 actinic reaction (evident by the existence of frayed strands),

   2.3 chemical reaction (evident by the existence of paint and rust inhibitor on the rope).

3. A safety harness was not used by the crew member.

Comment

The accident could have been avoided if the appropriate recommended procedures contained in Sections 15.4 and 15.5 of the "Code of Safe Working Practices for Merchant Seamen" had been followed.

15. HAND TRAPPED IN WATERTIGHT DOORWAY

Narrative

A ferry was at sea approaching her port of destination. A linen trolley was located in the vicinity of a closed Category C watertight door situated in the passenger accommodation. A catering rating stumbled against the trolley which, in turn, pushed against the operating handle of the door. The door began to open and its associated warning bell started to sound. Fearful of causing alarm to passengers in nearby cabins, the rating reached through the doorway and manually closed a microswitch with his right hand in order to silence the bell. While holding the operating handle in his left hand, the rating then allowed the door to close in short stages with the intention of moving his right hand clear at the last moment. However, the fingers of his right hand became trapped in the doorway as he attempted to move it clear before the door completely closed.

Observations

1. A notice, providing clear operating instructions for the watertight door, was located on the bulkhead immediately adjacent to the operating handle.

2. The rating had previously been trained with respect to the watertight door operation.

3. The management company concerned implements the following procedures with respect to watertight door operation:

    3.1 all crew members who may come into contact with watertight doors in the course of their work are trained in their use by a competent deck or engineer officer,

    3.2 training includes the correct operating procedures and the hazards and possible consequences of not following them,

    3.3 crew members are then given a short practical examination before being issued with an appropriate certificate.

Comment

1. The rating should have stood well clear of the door until it had completely closed.

2. In accordance with Merchant Shipping Notice No M.1326, it is essential that all crew members who may use watertight doors:

    2.1 know what type of control system is fitted in their ship,

    2.2 are well trained in the correct operating procedure for the system,

    2.3 fully appreciate the crushing power of watertight doors.

16. SINKING OF A FISHING VESSEL

Narrative

A 36 year old 20 metre wooden fishing vessel sank whilst on a voyage to a repair yard. There was a south-westerly force 5 wind blowing with a sea swell from the same direction of about 2.0 metres, the visibility at the time was about 5 miles.

Five days earlier, she had run aground and received damage to her wooden hull which caused flooding. Another fishing vessel towed her safely to port, after which she was pumped out. The following day while still alongside she flooded again; this time the Fire Brigade pumped her out. Subsequently a private surveyor made an inspection of the bottom and confirmed repair was required. There was no local slip available to carry out the repair work, so it was arranged to take her to a repair yard with a vacant slip which was about 100 miles away.

For the voyage to the repair yard it was arranged that another fishing vessel would accompany the damaged vessel. Both vessels departed in calm sea conditions, but by the time they had covered about 20 miles the wind had increased to force 4/5 and the vessel was once again flooding. The onboard pumps were unable to cope with the flooding, so the crew abandoned the vessel and joined the accompanying vessel. Attempts were made to tow the sinking vessel which were in vain; later the vessel sank in about 25 metres of water. The crew were returned to port safely.

Observation

The Skipper was very seriously at fault in taking this damaged vessel to sea and intending to make a 12 hour voyage, in this unseaworthy vessel.

Comment

1. The Skipper should have carried out the following:

    1.1 the vessel should have been thoroughly surveyed, and any temporary repairs should have been completed and inspected before going to sea,

    1.2 he should have informed the Department of Transport local Marine Office of the grounding damage to give them the opportunity to make an inspection of the vessel. The Safety Certificate may be cancelled if the hull, equipment or machinery have sustained any damage which renders the vessel inadequate for the intended service.

17. GROUNDING OF A FISHING VESSEL

Narrative

This incident involved a steel hulled 16 metre fishing vessel, built in 1989 to carry out longline fishing.

Intensive fishing operations had been completed just after midnight and the vessel was on passage to land the catch. There was a slight sea and swell with a light breeze. It was a dark night with occasional showers.

The Watchkeeper was comfortably seated at the control console in a warm dry wheelhouse. From the chair he could see all the navigational instruments, which included the video plotter and the two operational radars. The vessel was on auto-pilot, which received heading input from the gyro compass.

After navigating round a headland to starboard and setting the vessel on her next course, the Watchkeeper observed a small island on the radar about five and a half miles distant fine on the starboard bow. His next recollection was a "bump". The vessel had run aground on the island.

Fortunately she was easily refloated under the direction of the Skipper and none of the seven crew were injured. She had however suffered damage and had to be slipped for replacement of a plate in the bow.

Observations

1. The auto-pilot was fitted with a watch alarm but the alarm sounder was not working. During fishing the auto-pilot was used and the constant attention needed to reset the watch alarm was a source of annoyance to the crew. It had therefore been left inoperative for about six months.

2. The crew had been working at fishing operations for about 18 hours each day during the three days prior to the grounding. On completion of fishing, at about midnight, they had a meal. The Watchkeeper then took over the watch for the start of the passage. In these circumstances it was almost inevitable that he would fall asleep, particularly when the watch alarm was inoperative.

Comment

1. Advice is given in Merchant Shipping Notice Nos M.1190 and M.1020 regarding watchkeeping aboard fishing vessels. In particular, M.1190 points out the dangers of:

    1.1 keeping watch from a seated position with the wheelhouse fully battened down,

    1.2 one man keeping watch alone close to land,

    1.3 using auto-pilot without a watch alarm being fitted.

2. Merchant Shipping Notice No M.1020 draws the attention of Skippers to their responsibility to ensure that the man on watch is fit for the job and adequately rested.

3. Designers of wheelhouses should bear in mind that it is not good seamanship practice for a Watchkeeper to remain in one place during his watch, this is emphasised in Merchant Shipping Notice No M.1190.

18. THE GROUNDING AND LOSS OF A FISHING VESSEL

Narrative

This incident involved a wooden 18.5 metre fishing vessel. The vessel sailed at about 2200 hrs on a Saturday evening from a west coast of England port, bound for the Isle of Man. The Skipper was alone aboard the vessel, the intention being to pick up the rest of the crew after the vessel reached the destination port. The weather was overcast with poor visibility. The wind was south-easterly force 4 (11 - 16 knots) with a moderate sea and swell.

Whilst the vessel was on passage trouble developed with the electrical supply to the radio equipment. This was traced to a problem with the battery charger supply, but it could not be rectified at that time. On Sunday morning when the vessel was about half a mile off the coast of the Isle of Man, the engine cut out.

The Skipper went below to restart the engine. The cause of the engine failure was a blockage in the fuel system. He bled the fuel lines and after about an hour he restarted the engine, just as the vessel grounded on rocks at the foot of a high cliff.

Since the radio equipment was not working, the Skipper summoned help using flares. Eventually a lifeboat arrived, but it was unable to tow the fishing vessel off the rocks. The Skipper was rescued by the Coastguard Cliff Rescue Team, using a breeches buoy. The fishing vessel was left lying on her side, badly holed but with the engine still running. She became a constructive total loss.

Comment

1. Merchant Shipping Notice No M.1020 details the need for the keeping of a proper look-out and says that the wheelhouse should not be left unattended, at any time, whilst the vessel is at sea. With only one man on board a proper watch could not be maintained and the vessel was undermanned.

2. If the wheelhouse had been manned then the drift towards the rocks would have been noticed; the earlier use of distress equipment could have brought assistance in enough time to save the vessel.

3. This fishing vessel is required to carry portable radio equipment, for use in an emergency, under the Fishing Vessel (Safety Provisions) Rules 1975. Merchant Shipping Notice No M.917 draws attention of owners and Skippers of fishing vessels to the fact that it is vitally important to ensure that such equipment is regularly tested and maintained in an efficient condition, ready for immediate use.

19. GAS EXPLOSION ON A FISHING VESSEL

Narrative

A United Kingdom registered wooden hulled fishing vessel was in port whilst the owner carried out minor hull caulking repairs. The vessel was fitted with a two ring calor gas stove in the cabin with gas bottles stored on deck amidships alongside the winch. The supply line from the cooker to the deck was rigid copper pipe with a flexible rubber hose from the deck fitting to the gas bottles.

The vessel came alongside the quay on Thursday with the last recorded use of the gas rings being Friday when the owner made a cup of tea. Prior to the vessel being beached on Saturday night, the owner had entered the cabin to switch on the bilge pump but had not entered the engine space. The owner started caulking work on Tuesday morning at 0900 hours and worked through until about 1100 hours when he entered the cabin to use the gas cooker. When he used his lighter, a violent explosion occurred causing the cabin floor to disintegrate, dropping him into the bilges.

The explosion trapped the owner beneath the wheelhouse, rescue only being possible when a crane was brought onto the pier to help lift the wreckage. He suffered shock, severe burns to the hands and minor facial burns. The vessel was totally destroyed.

Observations

The owner stated that the gas taps at the stove were turned off on the Friday and that the build-up of gas must have occurred due to a leak from a corroded part of the copper pipe hidden behind the cabin fittings. The gas regulators fitted at the bottle were not isolated during the stay in port. The cooker had been onboard for about 18 months and had not been moved from its original installed position.

Comment

1. This type of incident well illustrates the dangers inherent in LPG domestic installations onboard vessels. Advice on the use of LPG and general comments on system installations is given in Merchant Shipping Notice No M.984. Additional advice is available in the DTp 1986 publication "Fishermen and Safety" - a guide to safe working practices for fisherman.

2. Routine inspection of the system pipework, the installation of a suitable gas detection unit and the use of the regulator isolation valve might have prevented this incident and the destruction of the vessel.

APPENDIX A

INVESTIGATIONS COMMENCED IN THE PERIOD 1.10.91 - 31.03.92

DATE OF ACCIDENT	NAME OF VESSEL	TYPE OF VESSEL	FLAG	SIZE	TYPE OF ACCIDENT
08.02.90	TRUSTFUL	FV	UK	15.89m	Accident to Person
07.07.91	ARDMORE	FV	UK	20.26m	Grounding
01.10.91	WHISPERING HOPE/ SAGACITY	FV/ Cargo	UK/ Bahamas	10.58m 1594 grt	Collision
04.10.91	HOVERSPEED GREAT BRITAIN	Passenger Catamaran	Bahamas	3003 grt	Machinery Failure
05.10.91	FAR STREAM	Supply Vessel	UK	1585 grt	Accident to Person
14.10.91	FREEDOM	FV	UK	22.61m	Fire
20.10.91	SALLY STAR	Passenger Ro-Ro	Bahamas	9120 grt	Fire
28.10.91	SINCERE	FV	UK	9.35m	Sinking
31.10.91	RIX EAGLE	Dry Cargo Barge	UK	292 grt	Fire
05.11.91	STORA KORSNAS LINK 1	Ro-Ro Cargo	Sweden	5018 grt	Fire
06.11.91	ELO	FV	UK	17.19m	Foundering
23.11.91	MORNING SUN	FV	UK	27.74m	Explosion
24.11.91	FAITHFUL R/ WAYFINDER	FV FV	UK UK	17.59m 20.15m	Collision
24.11.91	LUKE JON	FV	-	10m	Foundering
27.11.91	YEOMAN ROSE/ TINNES	Cargo Barge/ Bulk Cargo	UK UK	499 grt 6792 grt	Collision
28.11.91	BRIGG	FV	UK	14.63m	Sinking
01.12.91	PORT KING	FV	UK	47m	Sinking
08.12.91	HOO CREEK/ PRIDE OF CALAIS	Cargo/ Passenger Ro-Ro	UK UK	498 grt 26433 grt	Collision
09.01.92	OCEAN EXPRESS	Cargo	Panama	27650 grt	Fatal Accident
15.01.92	GEESTBAY	Cargo	UK	7729 grt	Fire
23.01.92	SATELLITE	Pilot Boat	UK	9.6m	Flooding
27.01.92	TINNES/ W D GATEWAY	Bulk Carrier/ Dredger	UK Netherlands	6792 grt 7942 grt	Collision
30.01.92	AUTOSTRADA/ INGE	Car Carrier/ Oil Tanker	UK Bahamas	610 grt 18625 grt	Collision
31.01.92	BOWTRADER	Dredger	UK	1592 grt	Collision
05.02.92	NORSEA	Ro-Ro Passenger	UK	31785 grt	Fatal Accident
06.02.92	DUNLIN	FV	UK	11.77m	Foundering
22.02.92	ANGLIA SERVICE	Offshore Support	UK	1285 grt	Accident to Person
05.03.92	SUROMAA	FV	UK	16.34m	Collision
05.03.92	BORELLY/ELIZA PG	General Cargo/ Oil Tanker	UK/ Bahamas	507 grt 3,350 grt	Collision

INVESTIGATIONS COMMENCED IN THE PERIOD 1.10.91 - 31.03.92 (Cont)

DATE OF ACCIDENT	NAME OF VESSEL	TYPE OF VESSEL	FLAG	SIZE	TYPE OF ACCIDENT
11.03.92	VIKINGBORG	FV	UK	15.57 m	Accident to person
15.03.92	JULIE ANN	FV	UK	9.80m	Foundering
16.03.92	ROSE IN JUNE	FV	UK	13.43m	Foundering
16.03.92	SPRAY	FV	UK	8m	Foundering