

LESSONS LEARNT  
**BY ACCIDENT**

# LOOKOUT!

DECEMBER 2008 *ISSUE ELEVEN*

***A yachtsman dies***  
***after falling overboard***

***Check your emergency beacon***  
***- IS IT 406 MHz?***

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### Unhinged!

- ▶ The loss of one small hinge leads to complete steering failure.

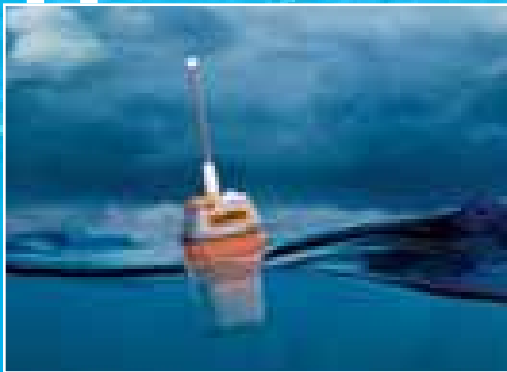
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# LOOKOUT!

▶ **Welcome to the December issue of *Lookout!*, the last for 2008. With the summer season underway we're entering a period of increased activity on our lakes and rivers.**

This issue includes a number of accidents and incidents from both the commercial and recreational sectors – from near misses, and fires to serious harm incidents. We have also included a guest editorial from Brian Orell, the Chairman of International Transport Workers' Federation (ITF) Seafarers' Committee. Reproduced from The International Human Element Bulletin *Alert*, Brian's editorial looks at the significance of the 2006 Maritime Labour Convention (MLC).

2008 has been a challenging year for many, and sadly there have been a number of accidents and fatalities across the sector. These are a timely reminder that we all need to be mindful of safety when out on the water, and we all need to continue to work together across all sectors to improve safety.

Please take the time to read through these incidents and take note of the simple things that could have been done to prevent them. Often it is the smallest changes that have the greatest impact.

On behalf of the team at MNZ, I'd like to wish you all a safe, happy and relaxing holiday season.

Please pass on this copy of *Lookout!* to your colleagues and crew, or contact any one of our offices if you'd like more copies. You can also view more detailed accident reports online at [www.maritimenz.govt.nz](http://www.maritimenz.govt.nz)

**Catherine Taylor**  
Director of Maritime New Zealand



# A momentous milestone for the international shipping industry

Brian Orrell, Chairman, International Transport Workers' Federation (ITF) Seafarers' Committee

**It is no exaggeration to describe the 2006 Maritime Labour Convention (MLC) – the so-called 'bill of rights for seafarers', which takes effect hopefully no later than 2012 – as a momentous milestone for the international shipping industry.**

There can be few people in the industry who are not familiar with the statistics showing the importance of the human element in shipping safety; and with the litany of underlying problems that help to fuel the adverse impact on 'human factor' trends such as excessive workloads, fatigue, stress and communication problems.

Those of us who worked long and hard to secure the historic agreement on the MLC did so in the hope that this would finally introduce measures to bring realistic yet effective controls on what had become a fragmented and destructive labour market after more than two decades of a race to the lowest common denominator.

The MLC will introduce new and improved standards to govern working conditions at sea; it needs to be ratified by at least 30 states representing 33% of world gross tonnage before it comes into effect.

The MLC addresses anything from minimum working age to maximum working hours, along with accommod-

ation, food and catering, health protection, medical care, welfare and social security. It contains new subjects – particularly in the area of occupational safety and health to meet current health concerns, such as the effects of noise and vibration on seafarers – and is intended to be globally applicable, easily understandable, readily updatable and uniformly enforced.

Enforcement is very much the key. The International Labour Organisation has developed a more effective enforcement and compliance system – in which a certificate system will be introduced to serve as a tangible sign that standards are being met – that will help to eliminate the substandard ships that undermine decent operators by providing unfair competition based on the exploitation of vulnerable seafarers.

The aim is to ensure that we get rid of the conditions that do so much to drag our vital industry down, and damage its reputation in the eyes of the public and the politicians; and to ensure that we better protect the well-being, health and

safety of seafarers and the safety of the ships on which they work.

How can seafarers feel like 'maritime professionals' when they live in constant fear of being replaced by cheaper crews? How can they feel motivated and proud of their work when they feel devalued, isolated and insecure? How can they perform to their best when they feel fatigued, stressed and overloaded with paperwork and bureaucratic requirements?

The MLC is a major step in valuing the world's 1.2 million seafarers properly, treating them with the respect and dignity they deserve.

MLC 2006 can be downloaded from:  
[www.ilo.org/global/What\\_we\\_do/InternationalLabourStandards/MaritimeLabourConvention/lang-en/docName--WCMS\\_090250/index.htm](http://www.ilo.org/global/What_we_do/InternationalLabourStandards/MaritimeLabourConvention/lang-en/docName--WCMS_090250/index.htm)

This editorial has been reproduced from *Alert* – the International Human Element Bulletin – Issue 18 September 2008.

# “Search called off for missing crew...”

Don't add to the stats ... plan for emergencies

- ▶ do radio skeds
- ▶ practise safety drills
- ▶ maintain safety equipment
- ▶ plan for weather

[www.maritimenz.govt.nz](http://www.maritimenz.govt.nz)

[newzealand.govt.nz](http://newzealand.govt.nz)

 **MARITIME**  
NEW ZEALAND

# Unhinged!



## The loss of one small hinge led to complete steering failure on a deep sea, long line fishing vessel at sea.

During operations, the long line was set into the water via one of two hatches set above the water line at the stern. Each hatch was fixed along the top with two hinges. With a heavy catch on board and 4 to 5 metres swells, one hinge on the starboard hatch failed. The remaining hinge was now under extra pressure, and after a further 2 hours, it too failed. With the hatch cover now held in place only by the hydraulic ram, the crew decided to remove it inboard and carry on fishing.

As the vessel continued with the haul, the position of the catch and the swell tended to cause it to roll to starboard. A significant amount of water started to enter through the open starboard hatch. The hook room

scuppers were quickly submerged and failed to operate effectively.

The skipper was alerted and decided to stop fishing and bring the vessel round head to weather to help minimise the water entering the hatch. The vessel then lost steering.

The vessel made a Pan Pan call and as the crew rigged up a spare electric motor to regain the steering, the skipper ordered the hatch shored up with available timber, emptied the stability tank and pumped the fuel forward to lift the stern. The scuppers were now able to pump effectively.

The vessel was taken immediately back to port for repairs.

“ A SIGNIFICANT AMOUNT OF WATER STARTED TO ENTER THROUGH THE OPEN STARBOARD HATCH. ”



▲ THE VESSEL – THE WHITE ARROW SHOWS LOCATION OF HATCH.  
▲▲ THE HATCH.

## LOOKOUT!POINTS

**1.** A breather pipe that led to the steering flat was found to terminate near the open hatch, and water had shorted out the steering pump. This design flaw had not been noticed before and the company plans to make changes on this and all of its vessels of similar design.

**2.** The hatch was last checked 8 days prior. It was an internal inspection as the ship was at sea. There was no external inspection, but the ship had been surveyed and found to be in good order 5 months earlier. The ship's engineer has been advised to ensure a regular external inspection is done, perhaps before the vessel leaves port.

**3.** This accident clearly shows that even a simple problem, when left unchecked, can evolve into a serious accident.

# Unsecured, untidy and on fire



THE VESSEL.



BROKEN FLEXIBLE PULL WIRE REPAIRED WITH A KNOT.

## Smoke pouring out of the engine room vents is the last thing the crew of a tuna boat wanted to see as they were recovering gear 400 nautical miles off the New Zealand coast.

A fire broke out in a fishing vessel's engine room, shunting thick black smoke out of the exhaust vents and onto the deck.

The crew had just hauled a catch on board when the skipper attempted to put the engine in gear. When there was no response the crew smelt smoke and, when turning to look astern, they saw smoke billowing out of the vents.

The skipper ordered the crew to don lifejackets and made a distress call while the engineer shut down the generator and secured the engine room flaps. The engineer set off the vessel's fixed fire-fighting system using a remote release wire in the crew room.

The liferaft was deployed and boarded by the skipper and three of the other crew. The engineer and one other elected to remain on board and monitor the fire. For about an hour the engineer continued to monitor the engine room temperature by feeling the back of the bulkheads and doors with the back of his hand. It did not seem to be getting any hotter, so the skipper reboarded the vessel and entered the engine room wearing breathing apparatus. The fire was clearly out and the crew began opening the engine room vents and hatches. The skipper downgraded the distress call to a request for towing assistance. During the wait for the tow

vessel, two attempts were made to restart the main engines. Both attempts resulted in suffocating fumes and were abandoned.

The vessel was returned to port under tow the following day. It had suffered extensive smoke damage to the engine room and minor damage to the electrics and the main engine's turbocharger and casing.

This incident was investigated by the Transport Accident Investigation Commission. To view the full report go to: [www.taic.org.nz](http://www.taic.org.nz)

## LOOKOUT!POINTS

**1.** A fire safety officer reported that the most likely cause of the fire was plastic falling onto the engine's turbocharger casing and igniting. Inspection showed numerous plastic containers, aerosol cans and diesel-soaked rags scattered around the engine room. An open plastic container full of diesel sat by the main engine, and plastic trousers had been hung up to dry. There were several examples found of improper engineering practice. A flexible wire pull allowed the full flaps to be shut off remotely from the accommodation. This wire had broken at some time and had been repaired with a knot. The knot would not have

fitted through the small diameter tubing that led to the accommodation, and the valve could not have been fully shut remotely. In short, the standard of general housekeeping on board was poor.

**2.** The fire burnt through all of the plastic material on the turbocharger and then extinguished. If there had been more combustible material scattered nearby, or if the open diesel container had ignited, the fire would have been far more serious.

**3.** The fixed fire-fighting system did not fully deploy. A cover had been fixed over the lever, which was triggered remotely by a flexible wire. Screw holes in the

wall showed the cover had been fixed at several different heights, but had finally been secured too low to allow the lever to complete its arc of travel. It had wedged against the cover when the system was deployed and not all of the gas had been discharged.

**4.** The fire suppressant gas cylinder was not located outside the engine room, as required by the Maritime Rules. Crew could not check it had fully deployed or operate it manually. In a fully involved fire, the vessel would have been at risk of a serious explosion.



# Care at all times

**A crewmember slipped 1.3 metres, crushing his heels, while trying to detach a ship's gangway.**

The crewmember and his crewmate had been standing on fixed steps on either side of the gangway at the ship end. They were lifting it with the ropes and intended to lower it down onto the wharf. The ship was set to sail in about an hour.

As they started to lower the suspended gangway, one side of it caught on the bracket used to attach it to the side of the ship. A third crewmember moved the end of the gangway that was on the wharf to try and dislodge the trapped side. The trapped side came away suddenly, catching the crewmember on that side by surprise. He dropped his rope and the full weight of the gangway shifted suddenly to the other crewmember who was knocked off the fixed stairs.

The injured crewmember found he was unable to bear weight, but elected to continue with the vessel to its home port the following day. Overnight he was administered first aid and pain relief. X-rays the following day showed fractures to his heels, and his feet were set in plaster.

This incident was investigated by the Transport Accident Investigation Commission. To view the full report go to: [www.taic.org.nz](http://www.taic.org.nz)



▲ DETAIL SHOWING NEW NON-SLIP SURFACE.  
▲ REPAINTED STEPS AND NEW GANGWAY BRACKET.

**“ HE DROPPED HIS ROPE AND THE FULL WEIGHT OF THE GANGWAY SHIFTED SUDDENLY TO THE OTHER CREWMEMBER WHO WAS KNOCKED OFF THE FIXED STAIRS. ”**

## LOOKOUT!POINTS

**1.** This accident shows that even the most mundane task can go wrong. Despite the gangway having been removed hundreds of times, on this one occasion it caught on the ship, and the accident unravelled from there. Since the accident, the company has repainted the fixed steps with a non-slip surface, and fitted

a new gangway bracket. It has also set in place a new policy that the removable stairs be left in place until the gangway has been removed. There is also a plan for a permanent crane to be built on the wharf for lifting gangways off vessels, and the company is considering a redesign of handrails in the area.

# Capsize – six lost



THE VESSEL MID-SALVAGE.

“ THE VESSEL LURCHED VIOLENTLY AND ROLLED HEAVILY TO STARBOARD. AS IT RIGHTED ITSELF ANOTHER WAVE WAS SHIPPED ON BOARD. THE AFTERDECK WAS NOW AWASH AND EMPTY FISH BINS WERE SEEN FLOATING OFF THE DECK. ”

**1.** The oncoming set of waves may not have appeared too dangerous from the helm position. The first may have been preceded by a trough that would not have been visible when first sighted. However, the helmsman was concerned enough to attempt to reposition the vessel. His decision to attempt to take the waves with the stern contributed to the vessel's loss. There was not time to complete the manoeuvre and it exposed the whole of the vessel's port side to the wave. In most vessels it is established best practice to bring a ship's head into the seas in heavy weather. An alteration to port would have put the waves ahead or almost ahead by the time they struck.

**2.** The vessel's only life raft did not deploy, however even if it had, it was rated to carry only four people. It is not known for certain why the life raft did not deploy automatically via its hydrostatic release unit. It was, however, fitted in a homemade cradle lined with carpet strips. The cradle was a tight fit with high arms, and this could have been a factor. The automatic deployment mechanism and the life raft painter had also been incorrectly assembled. As a coastal limit vessel this vessel was required to have a liferaft or liferafts with sufficient aggregate capacity for all on board.

## Six people, including two children, died when a 14 metre wooden fishing vessel capsized.

The vessel had been transporting mutton birders from an inshore island back to port. Four large fadges containing the catch and fishing equipment had been loaded onto the vessel's deck by helicopter.

Nine people were on board as the vessel set off in light to moderate winds and corresponding seas. As the voyage continued, the helmsman noticed a set of waves approaching from about 30 degrees on the port bow. At first glance they appeared to be no more than 2 metres in height, but they concerned the helmsman. He altered course to starboard intending that the vessel would take the waves on the stern.

The vessel was only part way through the manoeuvre when the first wave struck the port beam. The vessel lurched violently and rolled heavily to starboard. As it righted itself another wave was shipped on board. The after deck was now awash and empty fish bins were seen floating off the deck.

The helmsman tried to apply port helm to bring the head of the vessel into the seas, but to no avail. The vessel was now slowly rolling to starboard. The deck edge immersed and the starboard side of the wheelhouse reached sea level. Water started flooding through an open wheelhouse window. The vessel capsized with the hull fully inverted.

Five people managed to escape the flooding wheelhouse, but four, including the two children, were trapped inside

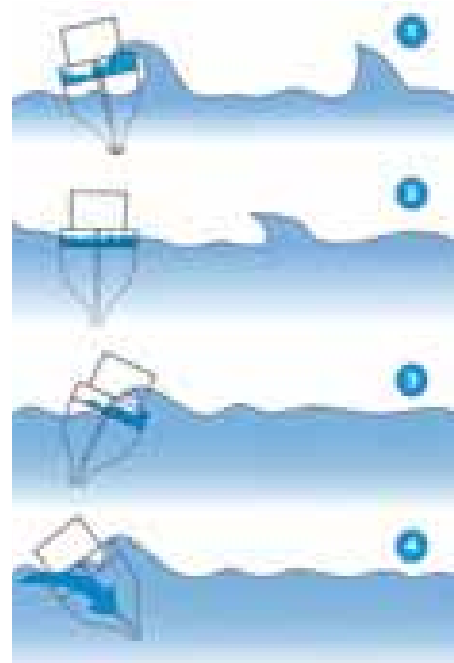
and drowned. Of those that escaped the wheelhouse, three managed to clamber on board the vessel's upturned hull, while the remaining two clung to one of the fadges that had floated free of the vessel. As it floated closer to a nearby island, these two decided to swim for it. One of the men, the skipper, managed to reach shore. The second man succumbed to hypothermia and drowned.

The three people on the upturned hull remained on board for some hours as it drifted down the coast of two islands. Eventually they too decided to swim for it. All three managed to reach the shore, but one subsequently died from hypothermia. The two others managed to find clothing and limited equipment in a hut and were able to signal for help to a nearby vessel. They were on the same island as the skipper, but separated from him. He was rescued about 3 hours later, and an intensive sea and air search was launched for the lost crew by the Rescue Coordination Centre New Zealand.

The missing bodies were all eventually located and the vessel was later salvaged for investigation.



View the full report online at:  
[www.maritimenz.govt.nz](http://www.maritimenz.govt.nz)



GRAPHIC SHOWING PROBABLE CAPSIZE SEQUENCE  
(WAVE HEIGHT REPRESENTATIVE OF THAT AT THE AFT DECK).

1. THE FIRST WAVE STRIKES. THE VESSEL SHIPS A LARGE QUANTITY OF WATER OVER THE PORT BULWARK RAIL ONTO THE AFT DECK. DUE TO THE WEIGHT OF WATER ON DECK THE VESSEL TRIMS HEAVILY BY THE STERN, POSSIBLY TO THE LEVEL OF THE AFT BULWARKS. THE DYNAMIC FORCE OF THE WAVE STRIKING THE VESSEL AND THE HEELING EFFECT OF THE WATER ON DECK CAUSES IT TO ROLL HEAVILY TO STARBOARD.

2. THE VESSEL ROLLS BACK ONTO AN EVEN KEEL BUT WITH CONSIDERABLY REDUCED AFTER FREEBOARD DUE TO THE WEIGHT OF WATER ON THE AFT DECK.

3. THE SECOND WAVE STRIKES. DUE TO FREE SURFACE EFFECT AND REDUCED FREEBOARD, MORE WATER IS SHIPPED ON DECK AND THE VESSEL COMMENCES HER FINAL ROLL TO STARBOARD.

4. DUE TO THE REDUCED FREEBOARD WATER IS ABLE TO ENTER THE OPEN STARBOARD WHEELHOUSE WINDOW AS THE VESSEL ROLLS TO STARBOARD CAUSING DOWNFLOODING INTO THE WHEELHOUSE AND FORECASTLE. ALL INTACT STABILITY IS LOST AND THE VESSEL CAPSIZES.

**3.** The vessel had only five adult lifejackets, despite there being nine people on board. These were kept in the forecabin accommodation area and could not be accessed quickly.

**4.** Testing showed drugs and alcohol had been taken by some of those on board. Both substances impair decision making ability, and alcohol is known to dilate blood vessels and significantly speed up the onset of hypothermia.

**5.** Some of the freeing ports on the deck, which allow shipped water to quickly drain overboard had been blocked with sliding covers, and by one of the fadges that had been loaded on the deck. This affected the rate at which shipped water could drain off the deck.

**6.** If any member of the crew had carried a hand-held VHF radio or a cell phone in a sealed plastic bag in their pocket, help could have been on the way much sooner.

## LOOKOUT! POINTS



# Fanning the flames

▲ THE VESSEL ABLAZE.

“ THE SHIP’S CO<sub>2</sub>-BASED FIXED FIRE-FIGHTING SYSTEM WAS ACTIVATED, BUT THE ENGINE ROOM FIRE REMAINED WELL INVOLVED. ”

## A fishing vessel burnt to the water line in open seas even though its fixed fire-fighting system was used.

Two fires broke out simultaneously on the vessel after a large wave broke over the bow and smashed through the wheelhouse window. The wave flooded the wheelhouse fuse box and electrics. The first fire is thought to have started by a short circuit in the wheelhouse. As the skipper and engineer fought this fire, the remaining two crewmembers discovered a second fire in the engine room.

The ship’s CO<sub>2</sub>-based fixed fire-fighting system was activated, but the engine room fire remained well involved. Two crewmembers later tried to enter

the engine room wearing breathing apparatus, but were beaten back by poor visibility in thick black smoke.

Realising the engine room fire had taken hold, the skipper contact a nearby vessel for help and ordered the ship’s liferaft be deployed. All crewmembers evacuated safely and paddled away from the burning vessel.

The rescue vessel soon arrived at the scene and returned the crew to shore the following day.

The vessel burnt to the water line and is assumed to have later foundered.

## LOOKOUT!POINTS

**1.** As the vessel was never recovered, the cause of the engine room fire cannot be confirmed. The vessel had been rewired following a fire 2 years earlier and all materials were to marine grade. It is possible that water from the wheelhouse dripped below to the engine room, causing a short circuit.

**2.** When the CO<sub>2</sub> fixed fire-fighting system failed to arrest the fire, the crew decided to enter the engine room wearing breathing apparatus to manually extinguish the fire. By opening the engine room door, the crew gave the fire an additional source of oxygen. Best practice when using a fixed fire-fighting

system is to shut all flaps and vents, turn the fans off, deploy the system and then do not re-enter the space.

# CHECK YOUR EMERGENCY BEACON

SWITCH TO  
**406** DISTRESS  
BEACONS  
[www.beacons.org.nz](http://www.beacons.org.nz)

**Globally, all distress beacons need to change to 406 MHz by February 2009. Get your before it's too late.**

After 1 February 2009 the old 121.5 MHz and 243 MHz Emergency Position Indicating Radio Beacons (EPIRBs) won't generate an alert or give your location. The satellite system that supports these old beacons will cease to operate from 1 February 2009.

This means if you need help in an emergency and try to use an old EPIRB to alert rescuers, the satellites will have no way of hearing you.

Time is running out – if you get into trouble and need help you'll have to have a 406 MHz EPIRB, registered and installed in your vessel by 1 February 2009. The sooner you do this, the better.

## What kind of EPIRB do you already have?

If you don't know what kind of EPIRB you have already, check it now. Somewhere on its body it will be marked with an operating frequency. If it doesn't say 406 MHz, it will more than likely need to be replaced. If in doubt, take it to an EPIRB supplier for verification. A list of these can be found at [www.beacons.org.nz](http://www.beacons.org.nz)

## How will a 406 MHz EPIRB help save your life?

- **It works.** Only 406 MHz EPIRBs will be monitored by satellite from 1 February 2009.
- **It's faster.** Once activated, the signal from a 406 MHz EPIRB is picked up almost instantly by satellite. The satellites supporting the old 121.5 MHz and 243 MHz EPIRBs took several hours to determine your location – which could have been hours too late.
- **It's more accurate.** 406 MHz EPIRBs give rescuers a search area of approximately 20 square kilometres. GPS equipped EPIRBs reduce the search area down to only a few square metres. This takes the 'search' out of search and rescue, and increases your chances of survival. Any 406 MHz beacon is a huge improvement on the 121.5/243 MHz system, which had a search area of more than 1260 square kilometres.
- **It brings the right response.** With 406 MHz EPIRBs, alerts are cross-referenced against a database of **registered** owners. Having this information improves rescuers ability to help you in an emergency, and to respond appropriately. Being able to contact you or a person you nominate also saves time and resources from being wasted on false alerts – out of the over 1000 121.5 MHz activations in the last 2 years, only 9% were for a real emergency.

## Maritime Rules

**Pleasure Vessels.** Offshore pleasure vessels heading overseas are already required to carry a 406 MHz EPIRB. Yachts undertaking coastal races where Category 2 or 3 safety rules apply must carry a 406 MHz EPIRB from **1 February 2009**. For further advice, contact the recreational boating team at Maritime New Zealand [recreationalboating@maritimenz.govt.nz](mailto:recreationalboating@maritimenz.govt.nz)

**Commercial Vessels.** For some classes of commercial vessels, it is already compulsory to carry registered 406 MHz EPIRBs from **1 July 2008**. To find out if that applies to you, contact your nearest Maritime New Zealand office or check out the relevant rules at [www.maritimenz.govt.nz/rules/EPIRBAmendment.pdf](http://www.maritimenz.govt.nz/rules/EPIRBAmendment.pdf). In basic terms, if you currently are required to carry an 121.5 MHz EPIRB, then you must now carry a 406 MHz EPIRB.

## Buying your 406 MHz EPIRB

### What kind of 406 MHz EPIRB do I need?

There is a wide range of beacons suitable for marine use. Some are activated manually while others will float free and activate automatically if the vessel sinks. In some cases a smaller, waterproof Personal Locator Beacon (PLB) may be suitable and can also be used for other purposes such as tramping, climbing, gliding and other outdoor activities. PLB's are small enough to fit in your pocket and are activated manually but most **do not** float and have a shorter battery-life than EPIRBs. We strongly recommend you purchase a beacon with in-built GPS as this dramatically improves their accuracy.

## Free 406 MHz Registration

It is vital that 406 MHz EPIRBs are registered with the Rescue Coordination Centre New Zealand (RCCNZ). This ensures a faster, more appropriate response in an emergency. Registration is free and you can **register online** or download the forms at [www.beacons.org.nz](http://www.beacons.org.nz). If you sell or buy a second hand 406 MHz EPIRB or if your personal details change (such as phone numbers or address), please take the time to update the registration information with RCCNZ.

## Disposing of your old EPIRB

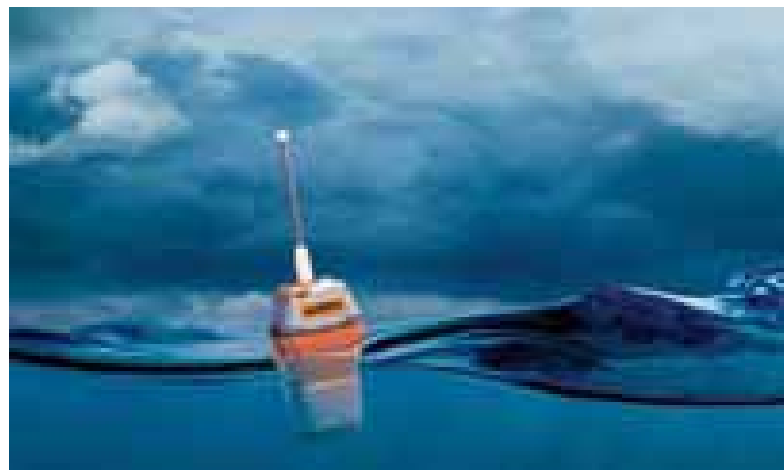
It's important to dispose of your old 121.5 or 243 MHz EPIRB properly. If you don't, it could still be accidentally activated, causing an unnecessary search and rescue operation. Old EPIRBs need to have their battery disconnected and then be disposed of in accordance with local regulations, as many contain hazardous materials.

You can go to [www.beacons.org.nz](http://www.beacons.org.nz) to see a list of suppliers who will help you dispose of your old beacons safely. Some of these suppliers may offer trade-in deals.

## Don't buy a foreign 406!

Each 406 MHz EPIRB has an individual hexadecimal code. These are allocated to different regions around the world. When you purchase a 406 MHz EPIRB, make sure it's coded for New Zealand. You can find a list of where to buy New Zealand coded 406 MHz EPIRBs at [www.beacons.org.nz](http://www.beacons.org.nz)

FOR MORE INFORMATION AND WHERE TO BUY, VISIT  
[WWW.BEACONS.ORG.NZ](http://WWW.BEACONS.ORG.NZ)





# Between a rescue boat and a hard place

“ THE CREWMEMBER REACHED OUT TO TRY TO FEND OFF THE APPROACHING SIDE OF THE VESSEL, TRAPPING HIS RIGHT THUMB BETWEEN THE RESCUE BOAT AND THE SHIP’S SIDE. ”

**A rescue boat that was being used to transfer stores between two commercial fishing vessels swung free, crushing a crewmember’s thumb.**

The rescue boat was being hoisted and swung onto the decks of each vessel by their ship’s crane for loading and discharge. With the crewmember on board, the boat was plucked out of the sea by one crane and lifted up towards the ship’s deck. Part way up the side of the vessel, the boat started to swing. The crewmember reached out to try to fend off the approaching side of the vessel, trapping his right thumb between the rescue boat and the ship’s side.

He was returned to his own vessel and received first aid before it was decided he needed further medical attention. The vessel returned to port and the crewmember underwent surgery the following day. A steel pin was inserted into his thumb joint.

## LOOKOUT!POINTS

**1.** The rescue boat was not hanging correctly at its lift points. A larger, heavier outboard motor had been retrofitted and this had affected the vessel’s centre of gravity. The boat was also not stabilised by fore and aft lines as it should have been.

**2.** The crane operator was lifting the boat out board of the vessel. The international best practice method for retrieving a rescue boat is to lift it hard against the side of the ship. This information is covered in the crane operation unit standards available and administered by the Seafood Industry Training Organisation.



# Man overboard

## A yachtsman died after falling overboard in rough seas.

His body was recovered without a lifejacket, and when the yacht washed up onto rocks, the yachtsman's safety harness was found lying unused on the cockpit seat.

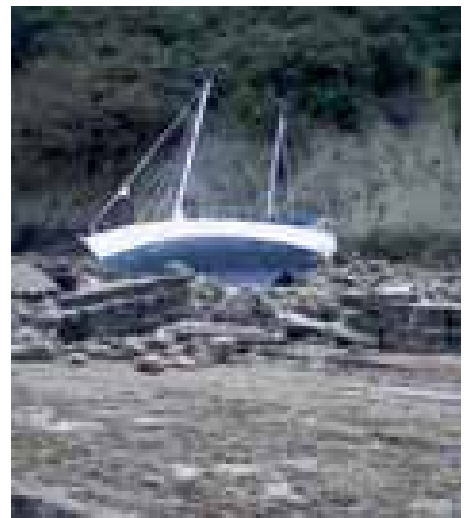
There were no witnesses to the accident, but the yachtsman was thought to have been motor sailing the 11.2 metre yacht on a coastal voyage with some shelter provided by islands to windward. He was an experienced ocean sailor. At the time conditions were 30 knot winds gusting to 48 knots, with 1-2 metre swells and rough sea.

When the yacht was found, its headsail and mizzen were furled. The mainsail was loosely tied to the boom.

The mainsheet was secured to its cleat, but the traveler did not have any stops. This meant the boom was able to swing through 1.5 to 2 metres.

It is possible that the yachtsman had been on deck putting additional ties round the mainsail. However, it is not known whether the movement of the boom contributed to his falling overboard.

The 30-year-old vessel was seaworthy at the time of the voyage and was equipped with VHF radio, liferaft, safety harness and lifejackets.



THE VESSEL WASHED ASHORE.

“ HE WAS AN EXPERIENCED OCEAN SAILOR. ”

**1.** A yacht motoring without sail in rough weather will roll heavily. This, compounded with the movement of the boom, would have made working on deck very challenging. A harness almost certainly would have prevented the yachtsman from being lost overboard. Attaching the harness to a jack-line would have allowed him to secure the

mainsail or carry out any other tasks on deck in safety.

**2.** A lifejacket (or harness) was legally required to be worn in this case. A lifejacket may have ensured the skipper stayed alive long enough to be rescued, provided he had the means to communicate distress. Had he been carrying a hand-held VHF radio or a

cellphone in a zip-lock plastic bag in his pocket, he may have been able to call for assistance.

**3.** Even the most experienced and capable sailors can be lost overboard. Some of the world's most experienced yachtsmen have been lost after failing to use a safety harness, often in moderate weather conditions.

## LOOKOUT!POINTS

# Asleep and preoccupied



ONE OF THE VESSELS.

## Two wooden offshore fishing vessels collided while one skipper slept and the second skipper was preoccupied with a repair.

Both vessels had been at sea for a few days and had ended this day in the same general area.

The skipper of the first vessel took over the watch in the late evening and after a couple of hours had slowed the main engine to idle and noted the lights of some other vessels ahead. He set a course on the autopilot to remain clear of them and sat down on the engine room hatch behind the watchkeeping position. From there he could not see

the auto pilot, or keep watch through the windows. As he listened to the marine forecast on VHF radio, the skipper drifted to sleep.

He was woken by the impact of a collision. Jumping up, the skipper saw the second fishing vessel steaming slowly past. After checking the vessel for damage, the skipper contacted the other vessel by VHF radio.

The second skipper had been down in the engine room when the vessels

collided. He too had taken over the watch at night. The main engine was shut down and the vessel's 'not under command' and deck lights were all showing.

Before heading for the engine room, the skipper had checked the radar and noted a few targets that were all drifting at the same speed as his vessel. He left the wheelhouse to start the engine room checks, but became preoccupied with changing a fuel filter. After about an hour, he felt the impact and as he rushed back to the wheelhouse, he saw the other vessel pass.

Both vessels sustained only minor damage. The skippers decided to continue fishing and returned the vessels to port for repairs a few days later.



DETAIL OF DAMAGE TO HULL SUSTAINED BY ONE VESSEL.

“ HE WAS WOKEN BY THE IMPACT OF A COLLISION. JUMPING UP, THE SKIPPER SAW THE SECOND FISHING VESSEL STEAMING SLOWLY PAST. ”

## LOOKOUT!POINTS

**1.** Neither skipper was keeping watch appropriately. The first skipper had had a poor sleep the night before, but had managed to get some naps that day. Still, he was clearly fatigued. The skipper was not in the watchkeeping position and so could not have monitored the radar or kept watch visually even if he had not fallen asleep. He also made an autopilot

course change which he then did not monitor.

**2.** The second skipper had scanned for other vessels using his radar before heading below, but had not bothered to range beyond the 6 nm range the radar was set to. If he had done so, he would have seen the other vessel heading towards him.

**3.** Any engine room check should be kept to a predetermined limited time. If a task requires more time than that allocated, another crewmember should be woken to take over the watch.





▲ OPEN HATCH VIEWED FROM INSIDE FISH POUND.  
▲ OPEN HATCH VIEWED FROM TRAWL DECK.

# Hatch severs fingers

**A trainee deckhand on his first fishing trip had four of his fingers wrenched off by a closing pound hatch door.**

The trainee had been cleaning inside the fishing trawler's pound with a more experienced crewmember. The pair had water-blasted the surfaces and were setting to work with buckets of soapy water and sponges. It had been a 49-day voyage and the pair were enjoying the clean-up with a radio blaring nearby.

The more experienced man called over to the trainee that he was going up on deck to get the pound hatch opened. They would then be able to clean around its seals. He left the trainee scrubbing the pound's ceiling pipework. Reaching the trawl deck, he called out to a crewmember who was cleaning nearby

to lower the pound hatch for him, and then set about rigging up a safety line around the hatch.

The deckhand at the hatch controls continued until the hatch cover was about 1.25 metres below the deck. Shortly after, he decided to close the hatch again as the safety line was not yet in place, and he felt the open hatch was a hazard.

Meanwhile, the trainee in the pound below saw the hatch being lowered. When it stopped just below the ceiling at a convenient height for scrubbing, he headed over, soaped up his sponge and got to work with his right hand. At that moment something distracted him and he looked over to the other side of the pound. With the music blaring, the vibrations of the ship and his ear protection, he did not hear or feel the hatch slowly rise toward the ceiling again.

Looking up, the trainee saw it just closing, and as he wrenched his hand away he realised four of his fingers had been severed.

He was heard to yell out from inside the fish pound and was met by crew in the adjacent factory who helped to lift him out through the access hatch. His crew partner was still on deck searching for the water blaster nozzle and did not realise the accident had occurred for some time.

The trainee's fingers were eventually recovered, still in their protective glove and were put on ice in the hopes that they could be reattached. The trainee was later flown by helicopter for plastic surgery and two of the fingers were successfully reattached.

**1.** A series of assumptions were party to this accident. The more experienced crewmember assumed he had made it clear he expected the trainee to remain clear of the hatch until he returned. The trainee had assumed the hatch had been lowered for cleaning and would remain in that position. The crewmember operating the hatch had assumed the more experienced crewmember was the only one working in the pound, and that it was empty.

**2.** The company was fined under the Health and Safety in Employment Act and ordered to pay reparation to the trainee and court costs. The company had recognised the potential hazard and had safe practices in place during fishing operations, but not during cleaning and at other times.

**3.** Other companies have manual locking pins inside the fish pound. These can be operated only from inside the fish pound and can prevent the fish pound

hatch from opening. If already open, a physical lock can ensure the hatch is not inadvertently closed.

**4.** Health and safety efforts can sometimes be focused on fishing and processing. Cleanup is often undertaken in a more celebratory mode when the end of a sometimes long voyage is near. While this is understandable, care must be taken at all times by everyone.

## LOOKOUT!POINTS

# Jet ski hits child



ONE OF THE JET SKIS.



DETAIL OF WARNING SIGN ON ONE OF THE JET SKIS.

## A 10-year-old boy suffered life threatening head injuries after he was hit by a jet ski.

The boy was one of a group of children and adults playing at a beach and taking fun rides on two jet skis. He was riding as a passenger on one jet ski, while two other children sat behind and in front of the driver on the second jet ski.

The jet skis were about 20 metres apart and travelling in the same direction. The jet ski carrying the boy was ahead by about 50 metres. The skipper of

the second jet ski saw the craft in front suddenly slow down and start to cross his bow. He immediately released the throttle and tried to steer clear, but his jet ski had lost steerage. It rode up over the back of the craft in front, crashing into the boy.

The boy suffered life threatening head injuries and remained in critical condition for some time before gradually starting to

improve. He has since started learning to walk and talk again, but it may be months or years before it is known whether he will ever fully recuperate.

**“ HE IMMEDIATELY RELEASED THE THROTTLE AND TRIED TO STEER CLEAR, BUT HIS JET SKI HAD LOST STEERAGE. IT RODE UP OVER THE BACK OF THE CRAFT IN FRONT, CRASHING INTO THE BOY. ”**

## LOOKOUT!POINTS

**1.** The driver of the second jet ski was very inexperienced, having driven one only three times, several years ago. Despite this, he was travelling at speed with two children on board, and in close proximity to another craft that was also carrying a child. The driver's inexperience meant he did not fully realise that releasing the throttle would cause him to

lose steerage despite the warning printed on the jet ski. He did not understand that reapplying power would restore control of the craft.

**2.** The unexpected slowing of the craft carrying the boy would have left few options for the driver of the second craft. This is a situation he should never have been in. Maritime law requires that a

vessel must not exceed 5 knots within 50 metres of another vessel. Nor should a vessel exceed 5 knots within 200 metres of the shore. These separation and speed limitations are required to avoid tragedies such as this.

# Maritime New Zealand Guidelines

## MARINE GUIDANCE NOTICE ISSUE 9 – SEPTEMBER 2008

### BULWARK AND GUARDRAIL HEIGHT – FISHING VESSELS

#### This guidance is for:

- commercial fishing vessel owners and operators
- safe ship management companies
- ship surveyors
- maritime safety inspectors
- boat builders.

#### Purpose

This guidance notice aims to:

- provide a reminder of the maritime rule requirements for bulwark and guardrail heights
- encourage skippers and crew to critically look at the bulwarks and guardrails on their vessels and assess whether they are adequately protected from accidentally falling overboard, during normal fishing operations.

#### Hazardous situation

Skippers and crew are at risk everyday of falling over the side of their vessel if the bulwarks and guardrails are too low or the gaps between the guardrails are too big.

During the review of Maritime Rules Part 40D in 2005 Maritime New Zealand discovered that of the 58 commercial fishing vessels inspected:

- 26 had bulwarks and/or guardrails below the required 750 mm
- 6 had guardrails missing in areas considered to be outside of the normal fishing area on the vessel
- 10 had the intermediate spacing between the guardrails bigger than the maximum gap of 380 mm
- 2 had no intermediate rails.

Low bulwarks and guardrails can be considered to be more dangerous than having no bulwarks or guardrails at all because they become a trip hazard rather than a piece of safety equipment. Also, low bulwarks allow more water to get on deck, which increases the danger of slipping.

#### Legal requirements

Part 40D.22 requires bulwarks and guardrails to be at a minimum of 750 mm above deck, except in the way of normal fishing operations.

The applicable part of the rule is reproduced below:

- 1) *Efficient bulwarks or guard rails must be fitted on all exposed parts of the working deck and on superstructure decks to which crew have normal access.*
- 2) *Except as provided in rule 40D.22(3), the height of bulwarks or guard rails above deck must be –*
  - (a) *for any ship of 24 metres or more in length, at least 1 metre; and*
  - (b) *for any ship of less than 24 metres in length, at least 750 mm.*
- 3) *Where the prescribed heights for bulwarks and guard rails would interfere with the normal fishing operations of the ship, a lesser height may be approved by the surveyor, provided that*

*(a) a reduction in height is not permitted in way of wheelhouse and deckhouse doors; and*

*(b) a fixed bulwark must not be less than 450 mm in height.*

- 4) *Clearance below the lowest course of guard rails is not to exceed 230 mm. Other courses must not be more than 380 mm apart, and the distance between stanchions must not be more than 1.5 metres. On a ship with rounded gunwales, guard rail supports must be placed on the flat of the deck. Rails must be free from sharp points, edges and corners and be of sufficient strength to prevent persons from falling overboard.*
- 5) *Storm rails must be fitted as necessary to the outside of all deckhouses and casings to secure safety of passage or work for the crew.*
- 6) *Stern trawlers must be provided with suitable protection such as doors, gates or nets at the top of the stern ramp at the same height as the adjacent bulwark or guard rails.*

Additionally, the Health and Safety in Employment Act 1992 (HSE Act) requires employers to take all practicable steps to ensure the safety of employees while at work. In particular, employers must provide and maintain a safe working environment and ensure that plant used by any employee at work is safe to use.

#### Conclusions

Any reduction in the height of bulwarks and guardrails to accommodate normal fishing operations has the potential to compromise safety and should only be applied where absolutely necessary.

A 450 mm high bulwark is below the knee in many cases, which can be more dangerous than not having one at all owing to the trip hazard it creates. A 750 mm high bulwark is at thigh height, which provides reasonable protection.

A gap bigger than 380 mm between guardrails increases the risk of falling overboard for anyone sliding into them.

#### Recommendations

- Look at the bulwarks and guardrails on the vessel you work on and assess if they give you adequate protection from falling overboard.
- Confirm that the bulwarks comply with the requirements of Maritime Rules Part 40D.
- Talk the options over with your surveyor.
- Make any necessary modifications to your bulwarks and guardrails in consultation with your surveyor.

#### Further information

For further information about bulwarks and guardrails, please contact:

Nautical Advisor, Maritime New Zealand

Phone: 0508 225522

Fax: (04) 494 1263

Email: [ssm@maritimenz.govt.nz](mailto:ssm@maritimenz.govt.nz)

# Safety updates

Maritime New Zealand publishes safety bulletins and marine guidance notices as a means of communicating and encouraging dialogue on a variety of safety issues and proposals relating to these. The bulletins and notices are published as and when required, and are distributed to those sectors directly involved. We welcome any comments you have on the recommendations and content in general. For more details on how to join our new email mailing list see below.

## Safety bulletins

### Passenger safety briefing – Maritime Rule Part 80

September 2008 – Issue 18

This safety bulletin highlights the importance of the pre-trip safety briefing being communicated effectively to passengers who may have difficulty understanding a verbal briefing. The briefing notes that Maritime Rules Part 80 – *Marine Craft used for Adventure Tourism* requires that a safety briefing card be on the boat and made available to any passenger who may have difficulty understanding a verbal briefing.

## Marine guidance notices

### Bulwark and guardrail height on fishing vessels

September 2008 – Issue 9

### Use of electronic charts, ECDIS and ENCs in New Zealand

June 2008 – Issue 8

### Large coastal ships – safety requirements

January 2008 – Issue 7

### Guidance on compliance with Maritime Rules 24B. 10(2) and (3) – vehicle lashing arrangements

November 2007 – Issue 6

### Advice on ISM code sections 10.3 and 10.4

November 2007 – Issue 5

### Safe winch operation and related appendixes

October 2007 – Issue 4

### Inboard mounted outboard motors

September 2007 – Issue 3

### Vehicle requirements for shipment by ro-ro

June 2007 – Issue 2

### Advice on acceptable freeing port covers

May 2007 – Issue 1

For more information you can:

- download the safety bulletins from the website: [www.maritimenz.govt.nz](http://www.maritimenz.govt.nz)
- email us at: [enquiries@maritimenz.govt.nz](mailto:enquiries@maritimenz.govt.nz)

### Incorrect image

Maritime New Zealand apologises for the use of the file photograph which appeared on page 8 of the September 2008 issue of *Lookout!* We regret that use of this image resulted in an unintended impression of wrong doing on the part of those involved in the operation of the vessel shown. This was not our intent and we undertake to avoid any similar occurrences in future.

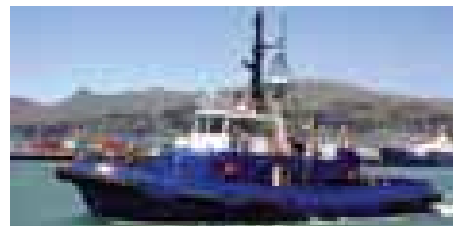
## Be up to speed with the latest safety info

### Join our email mailing list

Maritime New Zealand (MNZ) puts out a range of safety information updates (including safety bulletins and marine guidance notices) targeted at the needs of different audiences in the maritime industry. In the future, we aim to send out advice about MNZ safety updates primarily by email.

If you would like to be added to our email list, please email your details to: [publications@maritimenz.govt.nz](mailto:publications@maritimenz.govt.nz)

All our safety notices can be downloaded from the website: [www.maritimenz.govt.nz](http://www.maritimenz.govt.nz)



From 1 January  
to 27 November 2008

# 21

## MARITIME FATALITIES 2008

From 1 January to 27 November 2008, there were **21** fatalities – **eight** in the **commercial sector** and **13** in the **recreational sector**.



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FOLD 3



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**I find the contents of *Lookout!* to be:**

- very useful
- somewhat useful
- not useful
- no opinion

***Lookout!* is easy to read.**

- strongly agree
- somewhat agree
- disagree
- no opinion

**How would you prefer to receive *Lookout!*?**

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- via the website
- continue with print

**Do you have any other comments about *Lookout!*?**

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FOLD 2



## Sign up for safety bulletins

Sign up to receive Maritime New Zealand safety bulletins (see back page of **Lookout!** for the most recent issue).

Bulletins are issued irregularly by post or email, as needed. We prefer to email this important safety information to reduce delays.

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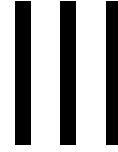
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