Healthy and safe transfer of maritime pilots

Good practice guide

New Zealand Maritime Pilots Association

2018

Endorsed by

Nō te rere moana Aotearoa
MARITIME NEW ZEALAND

NZMPA
New Zealand Maritime Pilots' Association

The NZMPA would like to acknowledge the following people for their involvement in developing this guideline:

Trevor Morrison
Hugh O'Neill
Neil MacKean
Lars Sorensen
Peter Willyams
Josh Osborne
Christopher Davies

Statement of endorsement:

Maritime NZ is pleased to endorse this Good Practice Guide as a tool that will contribute to improved health and safety outcomes for pilots, launch masters and crew.

Maritime NZ congratulates the New Zealand Maritime Pilots Association for its proactive approach to aligning good practice across New Zealand ports.

Keith Manch

Director, Maritime New Zealand

This endorsement expires on 31 October 2021

President's note:

Following a fall by a pilot from a ladder onto the foredeck of a pilot boat in 2016, we decided that our organisation should develop a set of Good Practice guidelines. This booklet contains the recommendations of a group of experienced NZ pilots to assist other pilots and their launch masters in making their decision to attempt a safe transfer or not.

Safety is paramount in our high risk theatre of operations and should be considered ahead of any commercial or personal motivations. The association supports all pilots who decide not to transfer due to an unsafe ladder arrangement, adverse weather conditions or vessel issues. A transfer also includes the disembarkation from a vessel, when the option of being over-carried should be considered if the safety of pilot or launch crew is in doubt.

NZMPA acknowledges the assistance of Maritime NZ in the editing and formatting of the First Edition of this guide and for endorsing its content.

Steve Banks, President NZMPA,

8 November 2018

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This voluntary guideline provides practical advice for maritime pilots, pilot launch masters and crew on good health and safety practices for the safe transfer of pilots between vessels.

Introduction

It takes many years to make a pilot but only minutes to lose one. Despite the regulatory regime and controls to hazards at New Zealand ports, incidents keep happening. The New Zealand Maritime Pilots Association (NZMPA) has developed this voluntary guideline in response to the continued incidents. Maritime NZ has endorsed this document as a tool that will contribute to improved health and safety outcomes for pilots, pilot launch masters (launch masters) and crew.

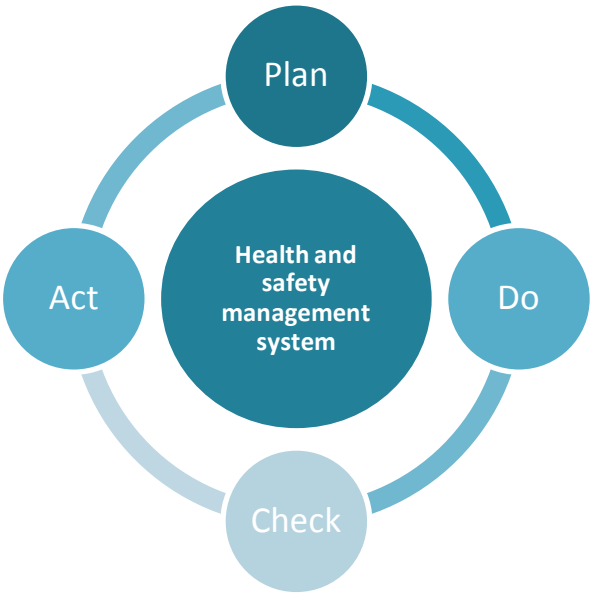
How to use this document

This document focuses on healthy and safe practices while transferring pilots between vessels. This document should be used as an aid to developing and implementing robust health and safety systems and culture; to effectively discharge duties under the following legislation and maritime rules:

- the Health and Safety at Work Act 2015
- the Maritime Transport Act 1994
- Maritime Rules Part 19
- Maritime Rules Part 53.

How to read this document

This document takes a health and safety management approach to good practice, and is divided into four health and safety steps:



Plan

These tasks should be done ahead of time, when developing the health and safety system, training pilots, and in some cases, before a pilot transfer takes place. There are also things in this section that pilots, launch masters and crew should do before coming to work.

Do

This section contains the issues that pilots, launch masters and crew should consider during the transfer process.

Check

This section contains guidance on assessing the risks in an operational environment, and monitoring the conditions as they change.

Act

This section contains guidance on reviewing procedures and the system, and what to do when things go wrong, including reporting.

There is a further section about conducting practice drills.

Interpreting this document

The table below shows the terms used to describe requirements in this document:

Term	Definition
Must	Describes a legal requirement to be complied with
Should or content written as a specific direction (e.g. 'make sure' or 'needs to' or other directive language)	A practice or approach that should be followed to increase health and safety outcomes and reflect this guidance in health and safety management systems. It is not mandatory under the law
May (or can, might or could)	Permissible practice or approach, but not mandatory under the law. A term sometimes used to suggest extra actions above the minimum requirement

Terms and acronyms used in this document

Term	Definition
BRM	Bridge resource management
Dynamic risk assessment	A risk assessment that is continually undertaken while completing a task to adapt risk management practices to the changing environment
PFD	Personal flotation device
Shared mental model	A shared understanding of the task to be performed and of the teamwork involved

Plan

Learn the law

Pilots, launch masters and crew all have legal responsibilities for the safe transfer of pilots between vessels.

Health and Safety at Work Act 2015 (HSWA)

Pilots, launch masters and crew are all "workers" under HSWA. All workers must take reasonable care of their own health and safety and take reasonable care that their acts or omissions don't adversely affect the health and safety of other persons This includes working under the influence of drugs or alcohol, or while fatigued. To learn more about your responsibilities under HSWA, refer to the Maritime NZ guidance "*Health and Safety: A guide for Mariners".*

Maritime Transport Act 1994 (MTA)

Launch masters have special duties under the MTA. For information about the duties launch masters have under each piece of legislation, see "*Health and Safety: A guide for Mariners".*

Maritime Rules Part 19

Operators of pilot launches must be in an approved safety management system. One of those is MOSS, in which case the operator is required to hold a Maritime Transport Operator Certificate. Each vessel in the fleet requires a Certificate of Survey from a recognised surveyor. For further information about MOSS, see Maritime Rules Part 19, the Maritime NZ website, and associated guidance .

Maritime Rules Part 53

Maritime Rules Part 53 prescribes the requirements regarding pilot transfer arrangements. Part 53 gives effect to the SOLAS convention requirements on the standards for pilot transfer arrangements set out in Chapter V of SOLAS 1974. For further information, see Part 53 and the advice on the Maritime NZ website.

Develop policies procedures and checklists

Develop procedures and checklists to set expectations for critical aspects of the transfer, which may include:

- information to be discussed during the pre-transfer briefing
- a risk matrix for heavy weather operations
- a list of equipment to be taken on the pilot launch
- the IMO safe pilot ladder poster
- a transfer plan template
- a checklist detailing roles and responsibilities for various emergency scenarios
- policy and procedure for reporting incidents.

Be fit and healthy for work

If you're not healthy, you're not safe. Pilots, launch masters and crew need to be fit and healthy for work. Follow the self-care checklist every day. Answers of "false" to anything on the checklist will need corrective action. In some cases, this might mean staying home from work

Self-care checklist

Self-care check-up	True	False
When I woke today, and after some food and drink, I felt energised enough to last the day		
I didn't wake from my sleep feeling affected by alcohol (feeling drunk or hung-over)		
I haven't ingested any substances that alter my state of consciousness (legal, illegal or prescribed) and I'm not withdrawing from any such substance		
I'm eating regular, nutritious meals and I stay hydrated		
I'm getting time to rest physically and mentally during my shift		
I'm not finding it physically difficult to do any part of my job		
I feel healthy and free from illness today		
I have regular medical check-ups and have no issues that could compromise my safety at work		
I have no issues outside of my work life that will distract me significantly at work		

Gather information and assess the risk

"Assessment of risks and hazards requires imagination, or "thinking the unthinkable". Exercises and drills occur in daylight and fine conditions, but accidents invariably happen at night, in foul weather when fatigue may also be a factor. Why do pilots fall from ladders? What injuries might they suffer during their fall? Do they land on the deck or fall into the water? Might they be crushed between the launch and the ship, or contact their propellers? If unconscious or disabled, will they float face-up? If it's a dark and stormy night, how does one locate and recover the unconscious pilot? Will the ship be endangered by having to manoeuvre without a pilot in confined waters? What part does Harbour Control play? These are some of the questions we need to ask ourselves but there will be others. Each accident is unique."

Hugh O'Neill, Pilot, Port Otago

If the vessel for pilotage is a regular visitor to New Zealand, there might be a lot of information available for the risk assessment. Look for:

- past issues boarding the vessel
- past notifications from ports to Maritime NZ
- safety bulletins from other ports regarding the vessel
- information about the type and size of vessel so you can consider this in your risk assessment
- information provided by overseas ports
- past NZMPA incident reports.

Consider the sea state and weather in the initial risk assessment to determine the safest location to board the vessel. If pilots know the risks, plans can be made to control them days in advance. An example of this is weather forecasts from reputable forecasters.

Know the safety equipment on the pilot launch and how it works

Everybody who goes out on the pilot launch needs to be familiar with the safety equipment on the vessel, and how it works. Even if you frequently travel on the pilot launch, equipment can change over time, or be moved to a different area on the vessel. Stay up to date with any changes. Launch masters must brief passengers on hazards on board the pilot launch, and what to do in an emergency.

Make a plan

"A robust pre-transfer tool box discussion of the transfer procedure between the Pilot, Launch Coxswain and Deckhand, leads to a shared mental model. Man overboard during the transfer and actions to be taken, should be discussed."

Chris Davies, Pilot, CentrePort

Have a crew meeting, while the pilot launch is still alongside. Create a shared mental model by making sure everybody is clear on the key objectives, and any risks applicable to the transfer. Put the key points of the decision-making into writing before leaving. It doesn't need

to be a long, comprehensive document, just provide enough information to show the crew talked about and assessed the risks.

Discuss:

- the vessel subject to a pilot transfer including any prior knowledge of the vessel
- the sea state and weather
- the location of the vessel for pilotage
- the general health of the pilot and crew (e.g. “are we all okay to work?”)
- any risks that have been identified as a result of the discussions
- any controls to be put in place to eliminate, isolate or minimise the risks. Note that this may result in the crew waiting for the weather or sea state to ease.

Do

Approach the vessel for pilotage safely

"To avoid own wash, it's generally better to approach the ladder having come around the vessel's stern. When the coxswain considers it safe, they signal their permission for deckhand and pilot to go on deck. However, the master of the ship, the pilot and indeed the deckhand should all have the power of veto: all must be satisfied that the operation is safe."

Chris Davies, Pilot, CentrePort

Establish the positions and movements of other vessels in the general area before approaching. Make radio contact with the master of the ship being approached. Assess which side of the ship to be boarded has the best lee conditions for boarding the vessel, then advise the master of the vessel for pilotage so that they can rig the ladder.

Approach the vessel for pilotage from the safest direction having assessed the sea state, weather and vessel design. Avoid creating extra wash where practicable. Make sure any instructions provided to the vessel being approached include the phrase, "*If safe to do so*". This is because the master of the vessel for pilotage remains responsible for their vessel throughout the transfer.

Contact the master of the vessel for pilotage for information on the pilot ladder

"Safe pilot transfer starts with accurate and timely communications with vessels as to expected boarding procedures."

Hugh O'Neill, Pilot, Port Otago

If the pilot is transferring from the pilot launch to the other vessel, confirm with Harbour Radio that the pilot ladder is rigged in a manner compliant with SOLAS and IMO resolutions. If the ladder rigging is confirmed as being non-compliant by Harbour Radio, don't climb it. Remember to keep a "healthy cynicism" if the master of the vessel for pilotage states to Harbour Radio the rigging is compliant. It may not be.

Visually inspect the pilot ladder

"Any deficiency that is identified should first be brought to the attention of the Master of the vessel to be piloted. Where practical, the deficiency should be rectified. If the issue cannot be rectified then the transfer should be reconsidered, and, if necessary, alternative arrangements made."

Trevor Morrison, Pilot, Napier Port

The following diagram shows the boarding arrangements for maritime pilots that are required to comply with SOLAS, IMO resolutions and Maritime Rules Part 53. If the visual inspection shows the ladder is not safe, don't climb it.

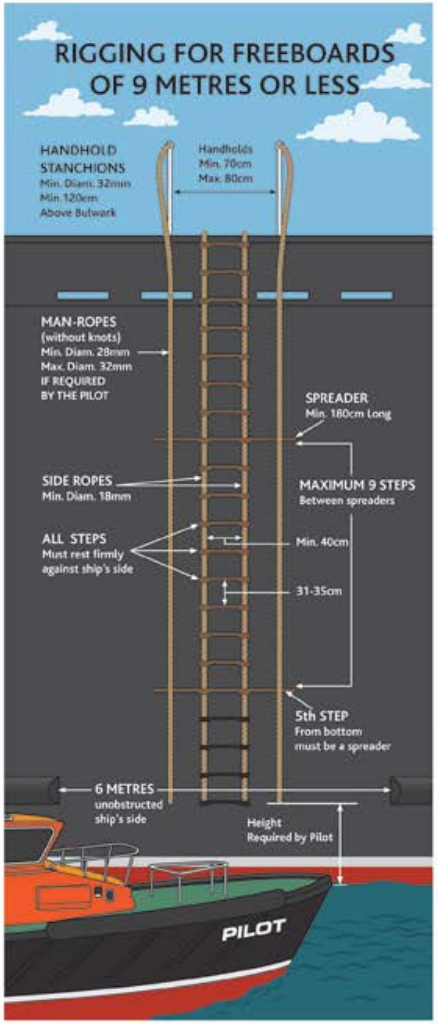
REQUIRED BOARDING ARRANGEMENTS FOR PILOT

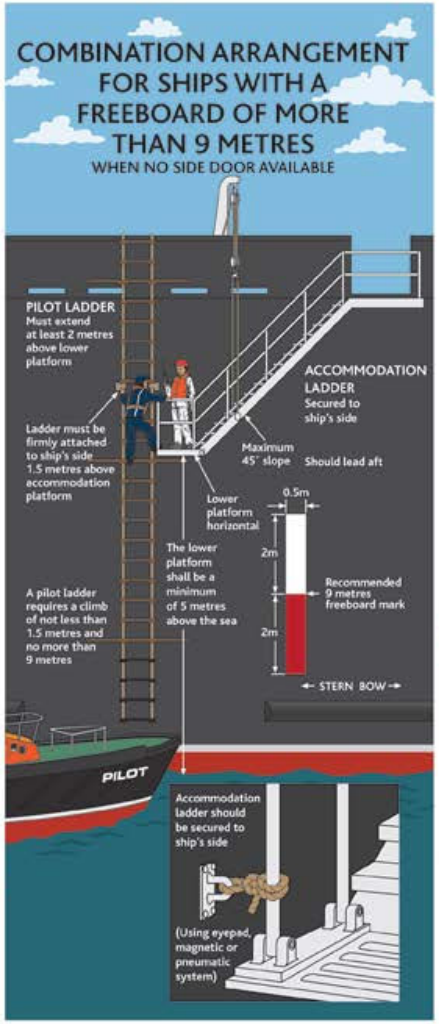
In accordance with SOLAS Regulation V/23 & IMO Resolution A.1045(27)

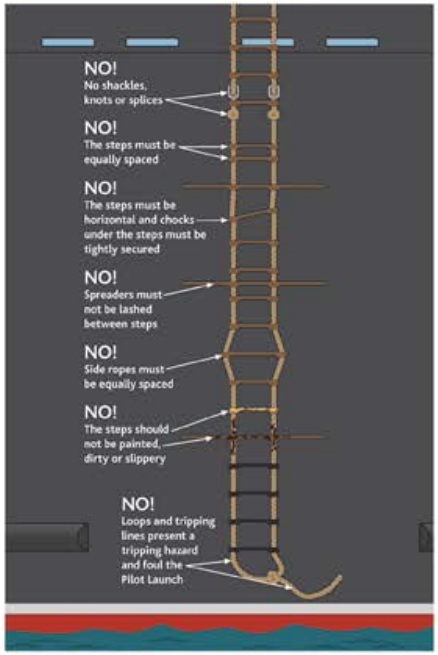
INTERNATIONAL MARITIME PILOTS' ASSOCIATION

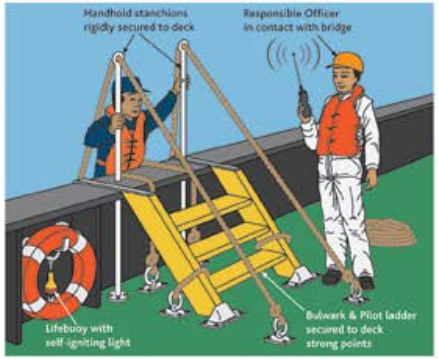
H.Q.S. "Wellington" Temple Stairs, Victoria Embankment, London WC2R 2PN Tel: +44 (0)20 7240 3973 Fax: +44 (0)20 7210 3518 Email: office@impahq.org

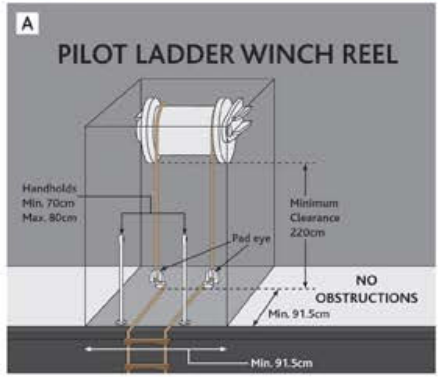
This document and all IMO Pilot-related documents are available for download at: http://www.impahq.org

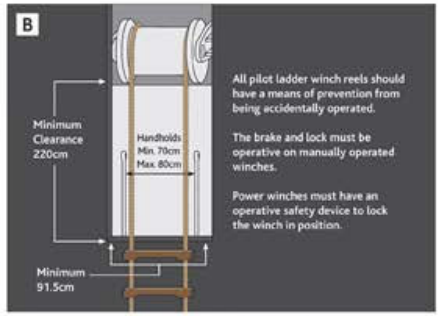


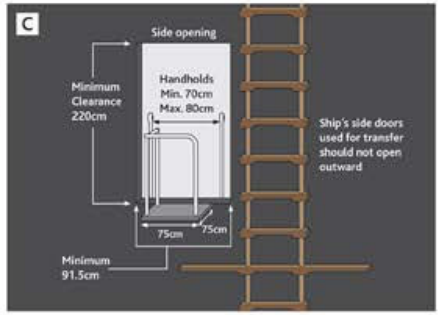












Wear appropriate personal protective equipment (PPE)

"Comparison from other industries shows that falls from heights of 6 meters or less have a 35% incidence of head injury (Helling et al 1999). Given the complexity of the pilot's task, even mild neurological or cognitive impairment may prevent a pilot from ever returning to work."

Josh Osborne, Pilot, South Port

Controls to hazards can fail and, when they do, everyone that could be affected needs to be prepared. Wearing appropriate PPE can be critical for preventing harm, or a fatality.

Pilots can fall into the water at any time of day, and in all weather conditions. They can also be injured and become unconscious if they fall. Personal flotation devices must be worn during pilot transfers. Make sure the personal flotation device is fit for purpose. Consider:

- how the pilot will be visible in the water during the day and at night in all weather conditions
- how a pilot's location can be tracked when he or she isn't visible (i.e. consider a personal locator beacon)
- how the pilot will be prevented from drowning in the event he or she becomes unconscious
- how all technical parts of the personal flotation device including lights, whistles and personal locator beacons can be operated or activated with limited dexterity.

Before purchasing personal flotation devices, make sure the devices being considered have performed well in tests and real life scenarios.

Avoid wearing backpacks or any other device that can restrict inflation of the flotation device. Where there is a chance that backpacks may be worn, conduct a risk assessment and control those risks to provide the highest practicable level of protection to the pilot.

Where there is a risk of falling objects or a fall from height where someone can hit their head on a hard surface, they need to wear a helmet. Where there is a chance that helmets won't be worn, conduct a risk assessment and control those risks to provide the highest practicable level of protection to the pilot.

Make sure eyes are protected from the sun during the day. Wear sunblock during the day shift.

"PFD's need to be highly visible both day and night to assist in location and rescue. Bright colours, flashing lights and retro-reflective tape all enhance visibility. On a dark night in rough conditions, it is possible for the deck crew to lose sight of the pilot overboard. Water activated automatic Personal Locator Beacons (PLB) which can be tracked from the pilot vessel should be the obvious choice."

Hugh O'Neill, Pilot, Port Otago

Heavy weather operations

"In adverse weather conditions the risks associated with boarding operations are heightened. Neither the Pilot nor the deck hand should proceed from the cabin until the pilot boat is in the lee of the ship and permission to proceed with embarkation has been granted by the Launch Master."

Chris Davies, Pilot, CentrePort

Heavy weather operations can be hazardous and extra care is needed to control risks. Pilots, launch masters and crew all need to have the same understanding of how a pilot transfer will take place. Conduct pre-transfer briefings to make sure everyone has the same understanding.

The master of the vessel for pilotage needs to be briefed on the anticipated transfer and what is expected of them in providing a good lee. Stay in contact with the master of the vessel for pilotage and discuss any concerns throughout the process.

Make sure the pilot launch proceeds at a speed compatible with the sea state and the pilot launch design. Where possible, all personnel on board should be seated.

Make sure ancillary equipment and stores are secured and clear of seating.

The pilot and deckhand should wait until the pilot launch is in the lee of the vessel for pilotage and the pilot launch coxswain has given permission to proceed with the transfer.

Port authorities may consider developing heavy weather tools or decision making protocols appropriate to weather conditions experienced in local areas.

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Example: CentrePort working matrix

Here is an example of the working matrix used by CentrePort
For the safety of persons aboard the following parameters relate to launch transit and transfer operation and not the vessel transit operation. On every occasion (in marginal situations) there is to be agreement on the feasibility of a safe transfer to and from a vessel between the Pilot and the pilot launch coxswain before the transfer is attempted. When doubt exists the transfer is to be aborted.

Pilot Launch operational parameters in southerly wind conditions - assuming a 10 sec period swell

Wind Speed from Southerly quarter in knots

	10	15	20	25	30	35	40	45	50	55	60
0.5											
1											
1.5									#		
2								#			
2.5							#				
3											
3.5											
4											
4.5	X										
5	X										
5.5											
6											
6.5											
7											

Explanation of matrix:

	No restrictions.
	Daylight only, complete risk assessment and review (between Pilot & Launchmaster)
	Risk Assessment & Review (Pilot & Launchmaster)
	Defer task until conditions moderate/Pilot overcarry or join vessel in preceding port
	Defer task if the "Max recorded wave ht" has reached these parameters within last 30min (period <10s)
*	Wind Speed at Beacon Hill/Baring Hd (av. over 5min. not peak)
**	Swell ht. is significant - not max, taken from wave-rider buoy
#	Marginal conditions for nighttime: conduct Risk assessment & Review
X	Daylight only, if swell/wave period less than 8s

Check

Use ‘dynamic risk assessment’

Conditions can change after a risk assessment has been completed. It is important to continue assessing the risk, and not to take the initial decision to act as “final”. This is often referred to as “dynamic risk assessment”. This type of risk assessment is usually a “think before you act” process, rather than a written risk assessment.

Transfer safely: Guidance for pilots

Once the risk assessment is complete, the pilot ladder needs to be ascended or descended using a safe technique. Hazards must be controlled to provide the highest level of protection that is reasonably practicable, in line with industry practice. Pilots need to be prepared to abort a transfer if they think it’s unsafe.

Wait for wash to settle before attempting to transfer to the pilot ladder. Once on the pilot ladder, use the technique taught in training. Always have three points of contact on the ladder and man ropes.

Pilot launch crew may need to provide assistance to the pilot as he or she transfers between the pilot ladder and the pilot launch. Assess the risk and control any identified hazards. These may include:

- PPE such as lifejackets
- helmets
- testing manropes by pulling heavily on them
- leave a clear path for the pilot to fall avoiding contact with the launch.

Stay safe on board the vessel under pilotage

Pilots need to assess the risks on board the vessel under pilotage. The vessel should provide a clear path from the pilot ladder to the bridge. Scan the environment for hazards, including any hazards from above. Avoid areas where controls to hazards aren’t satisfactory. Don’t forget to look for potential health hazards, such as uncontrolled dust, asbestos or chemicals.

Communicate that all is well

The masters of both vessels have a vested interest in the pilot’s health and safety. On completing the transfer, pilots need to communicate with the Master of the vessel they have transferred from that they are safely aboard the vessel they transferred to.

Act

Nobody achieves perfection in health and safety. There will always be areas where improvements can be made. Debriefing on a regular basis and when things go wrong can help to build a health and safety culture where continuous improvement becomes an intrinsic component.

Regularly review practices

It's important to regularly review the way things are done. Make sure pilot launch crew and pilots meet at regular intervals to talk about how they operate and opportunities for improvement. These meetings are important when laws change. They are also important when ports become aware of new PPE or practices at other port operations in New Zealand and overseas. Meetings to review practices involve workers in the decision making and help to confirm and cement expectations for safe practices for maritime pilots and for pilot launch crew.

When things go wrong

When things go wrong it's important to talk about it. Incidents will likely be investigated through port management, but it's important to flag any urgent issues straight away. The maritime pilot and pilot launch crew should identify any urgent safety issues that need to be raised immediately as investigations can take some time. Matters that need to be identified quickly include (but are not limited to):

- an impaired crew member or pilot
- faulty PPE
- foul weather conditions or sea state that could result in further operations ceasing
- pilot launch issues that compromise the safety of others

Reporting incidents

"The principal reason for reporting is to prevent the same or a similar incident from happening in the future. A good reporting system should allow for a suitable investigation to be conducted and provide statistical data, which can highlight the risks and identify trends or indicators of problems which could lead to a more serious incident occurring."

Trevor Morrison, Pilot, Napier Port

Make sure all reportable incidents are notified to Maritime NZ. Don't forget to notify incidents at ports in accordance with health and safety policies. Complete and submit an NZMPA incident report.

Conduct regular exercises

Incidents occur when controls to hazards fail. Practice drills are essential for building a "second nature" response to incidents that commonly occur at sea. Conduct regular practice drills on a roster that ensures all pilots and crew are exercised in some capacity at least annually. This could include small exercises on routine work voyages or exercises programmed for all crew outside of the "business as usual" workday. It could also include an "all of harbour" exercise if consulted appropriately with the Harbourmaster.

Man overboard

A man overboard incident is a significant risk for a pilot. Make sure all pilots and pilot launch crew are trained for this scenario. Where possible, conduct controlled training in the water and conditions worked in, so that it's not a shock for pilots in the event something goes wrong. This may not be possible in some areas of New Zealand due to the low average water temperatures.

Casualties

If somebody gets hurt during a pilot transfer, it can take time to get them to a qualified emergency medical practitioner. Timely first aid treatment can be the difference between a fatal or a survivable injury. Practice working on casualties regularly. During practice drills, make sure the equipment needed to prolong life until a qualified emergency medical practitioner can take over is available. Scenarios to practice should include (but are not limited to):

- hypothermia
- CPR
- head and spinal injuries
- crushing injuries.

Fire on the pilot launch

Make sure all personnel who travel on the pilot launch as a part of their ordinary working day are able to use basic firefighting techniques.

Example: Port Taranaki pilot man-overboard exercise

Port Taranaki conducted a pilot man-overboard exercise to experience the conditions they would face in the event of a man-overboard. They used the exercise to experience the inflation of their lifejackets, test their capability and experience the buoyancy of their helmets.

The pilot launch cruised between 4-7 knots within harbor limits. Each pilot individually jumped overboard to simulate a fall and was then ‘rescued’.

Lessons learned

Pilots learned that the brand of lifejacket they used worked well. The jacket would right the wearer onto their back and provide good neck support. Two pilots attempted to roll onto their stomachs but were unable to as they self-righted onto their backs instantly. They also learned the helmets they used added buoyancy and thermal protection. The visor acted as a splash guard.