



Transport Accident  
Investigation  
Commission

# **Final report**

## **Tuhinga whakamutunga**

***Maritime inquiry MO-2023-206***  
***Fishing vessel, Austro Carina***  
***Stranding at Red Bay, Banks Peninsula***  
***24 September 2023***

**March 2025**





# The Transport Accident Investigation Commission

## Te Kōmihana Tirotiro Aituā Waka

### ***No repeat accidents – ever!***

“The principal purpose of the Commission shall be to determine the circumstances and causes of accidents and incidents with a view to avoiding similar occurrences in the future, rather than to ascribe blame to any person.”

*Transport Accident Investigation Commission Act 1990, s4 Purpose*

The Transport Accident Investigation Commission is an independent Crown entity and standing commission of inquiry. We investigate selected maritime, aviation and rail accidents and incidents that occur in New Zealand or involve New Zealand-registered aircraft or vessels.

Our investigations are for the purpose of avoiding similar accidents and incidents in the future. We determine and analyse contributing factors, explain circumstances and causes, identify safety issues, and make recommendations to improve safety. Our findings cannot be used to pursue criminal, civil, or regulatory action.

At the end of every inquiry, we share all relevant knowledge in a final report. We use our information and insight to influence others in the transport sector to improve safety, nationally and internationally.

### ***Commissioners***

Chief Commissioner	Jane Meares (until 30 September 2024)
Chief Commissioner	David Clarke (from 1 October 2024)
Deputy Chief Commissioner	Stephen Davies Howard
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# Notes about Commission reports

## Kōrero tāpiri ki ngā pūrongo o te Kōmihana

### *Citations and referencing*

The citations section of this report lists public documents. Documents unavailable to the public (that is, not discoverable under the Official Information Act 1982) are referenced in footnotes. Information derived from interviews during the Commission's inquiry into the occurrence is used without attribution.

### *Photographs, diagrams, pictures*

The Commission owns the photographs, diagrams and pictures in this report unless otherwise specified.

### *Verbal probability expressions*

For clarity, the Commission uses standardised terminology where possible.

One example of this standardisation is the terminology used to describe the degree of probability (or likelihood) that an event happened, or a condition existed in support of a hypothesis. The Commission has adopted this terminology from the Intergovernmental Panel on Climate Change and Australian Transport Safety Bureau models. The Commission chose these models because of their simplicity, usability, and international use. The Commission considers these models reflect its functions. These functions include making findings and issuing recommendations based on a wide range of evidence, whether or not that evidence would be admissible in a court of law.

Terminology	Likelihood	Equivalent terms
Virtually certain	> 99% probability of occurrence	Almost certain
Very likely	> 90% probability	Highly likely, very probable
Likely	> 66% probability	Probable
About as likely as not	33% to 66% probability	More or less likely
Unlikely	< 33% probability	Improbable
Very unlikely	< 10% probability	Highly unlikely
Exceptionally unlikely	< 1% probability	



**Figure 1: Fishing trawler *Austro Carina***  
(Credit: Pegasus Fishing Limited)



Figure 2: Location of accident

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# 1 Executive summary

## Tuhinga whakarāpopoto

### What happened

- 1.1. On 24 September 2023, at about 2137, the *Austro Carina* stranded<sup>1</sup> while fishing at Red Bay, Banks Peninsula. The vessel suffered extensive damage and was unsalvageable. It was subsequently declared a constructive total loss<sup>2</sup> by the insurer.
- 1.2. The four crew members abandoned the vessel and were rescued by helicopter and returned to Christchurch.

### Why it happened

- 1.3. Watchkeeping standards and practices on the *Austro Carina* did not ensure safe navigation while the crew were fishing. The master left the wheelhouse for periods of 5–10 minutes to help the crew with fishing activities. The master believed this to be permitted under the standing orders, and it was apparently normal practice. The master did not activate any of the navigation aids. Had the wheelhouse<sup>3</sup> been continuously manned it is **virtually certain** that the vessel's course and speed would have been monitored, and adjustments made to avoid the stranding.

### What we can learn

- 1.4. Strandings can be avoided by implementing good watchkeeping standards, including adhering to the basic principle of keeping a navigational watch on board fishing vessels.
- 1.5. Effective communication and crew resource management, where all team members are alert to what is happening and are prepared to speak up, are essential for operating fishing vessels safely.

### Who may benefit

- 1.6. All seafarers, fishing vessel owners and operators, fishing vessel insurers and maritime training schools may benefit from the findings of this inquiry.

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<sup>1</sup> When a ship or a boat is aground and cannot be refloated without assistance

<sup>2</sup> The damage to the vessel is extensive and the cost of salvage and repairs would exceed the insured value

<sup>3</sup> Part of a ship or boat from which a person steers the ship or boat

## 2 Factual information

### Pārongo pono

#### Narrative

- 2.1. On Saturday 23 September 2023, the commercial fishing vessel *Austro Carina* was moored at a wharf in the Port of Lyttelton. The master had organised the crew of two deckhands and a mate for a day fishing trip and had scheduled to meet them at the vessel, at 0200 NZST<sup>4</sup> on Sunday 24 September 2023.
- 2.2. On 24 September 2023, the two deckhands arrived at port at 0144 NZST and started loading the vessel with provisions for the day trip. The mate arrived a few minutes later.
- 2.3. At 0200 NZST, New Zealand adjusted clocks forward by one hour for daylight saving.
- 2.4. The master arrived at the vessel at approximately 0307 NZDT<sup>5</sup> and started their predeparture checks while the deckhands and the mate loaded ice into the vessel's fish holds, which took about 45 minutes.
- 2.5. At approximately 0354 the vessel departed the berth, with the master at the helm.
- 2.6. At approximately 0445 the vessel passed Godley Head and was clear of the harbour entrance (see Figure 3). The master handed over the navigational watch and control of the vessel to a deckhand. The master switched on the watchkeeping alarm<sup>6</sup> and went to bed.
- 2.7. The supervision of the navigational watch was shared between the two deckhands until they reached the fishing grounds about 3.5 nautical miles (NM) east of Banks Peninsula.
- 2.8. At approximately 0710, the *Austro Carina* arrived at its intended fishing grounds. The deckhand on navigational watch called the master to the wheelhouse. The master took over watchkeeping duties and control of the vessel and turned off the watchkeeping alarm. The deckhand joined the other crew on deck and prepared the net for deployment.
- 2.9. At about 0715, the crew deployed the net and began fishing along the 50 m isobath<sup>7</sup>. While the net was being towed, the master was in the wheelhouse and maintained the navigational watch and monitored the data received from catch sensors<sup>8</sup>.
- 2.10. Between 0710 and 1635 the *Austro Carina* completed two trawling runs. Each trawling run involved shooting the net<sup>9</sup>, trawling<sup>10</sup> at a vessel speed of about 3.5 knots (kt)<sup>11</sup>, and hauling in the net<sup>12</sup> at a vessel speed of about 1.8 kt.

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<sup>4</sup> New Zealand standard time, which is Coordinated Universal Time (UTC) + 12 hours

<sup>5</sup> New Zealand daylight time, which is Coordinated Universal Time (UTC) + 13 hours

<sup>6</sup> An automated alarm designed to monitor the alertness of watchkeepers, while the ship is underway

<sup>7</sup> A line drawn on a chart for indicating the depth of water below the surface

<sup>8</sup> Electronic transmitters fitted to the top of the cod end of the net (where the fish are caught) that monitor the amount of catch and warn when the cod end is full

<sup>9</sup> Deploying the net to start fishing

<sup>10</sup> Towing the net to catch fish

<sup>11</sup> Speed of a vessel in nautical miles per hour; one nautical mile is 1.852 kilometres

<sup>12</sup> Retrieving the net after fishing



Figure 3: Austro Carina trawling runs

- 2.11. The master used the catch sensor data to determine when to haul in the net. After the net was hauled in, the fish trapped in the cod end<sup>13</sup> were emptied onto the deck and sorted by the crew, who then transferred the fish to the freezers. The net was then prepared to shoot again.
- 2.12. At about 1635, the *Austro Carina* started the planned third and final run for the day. The vessel was proceeding on a south westerly course at about 3.5 kt. The prevailing weather at that time was a southeasterly wind of approximately 15 kt. There were slight seas<sup>14</sup> with a southeasterly swell<sup>15</sup> of about 1 metre (m).
- 2.13. At about 1930, the master called the crew back to the deck to haul in the net. Daylight was starting to fade, so the master turned on the aft-facing deck lights to illuminate the fishing deck and the sea immediately around the vessel. The master remained in the wheelhouse while the crew prepared the deck for hauling in the net.
- 2.14. At about 2010, the master reduced the vessel's speed to 2 kt and the crew started retrieving the net.
- 2.15. On this run the catch sensors had indicated a small quantity of fish in the cod end of the net. However, as the net was hauled in the crew discovered a bigger catch trapped in the middle section of the net. Spiny dogfish<sup>16</sup> had blocked the movement of fish towards the cod end.
- 2.16. A few minutes later, the master left the wheelhouse to help the crew on deck to remove the spiny dogfish from the net. While on deck, the master also made repairs to the net.
- 2.17. At about 2020 the crew lowered the net into the water and resumed towing it close to the stern of the vessel to move the fish into the cod end.
- 2.18. At about 2024, the master returned to the wheelhouse and increased the vessel's speed to about 3.5 kt to expedite the fish-herding process. Simultaneously, they started a slow turn to starboard<sup>17</sup> to create an arc that was sufficient to make it easier to haul the nets into the rear of the vessel.
- 2.19. The crew then hauled in the cod end and emptied the fish on to the deck. Because of the size of the catch, they had to tow the net a second time and repeat the process.
- 2.20. Between about 2024 and 2040, while the net was being hauled in and the fish sorted, the master moved back and forth between the wheelhouse and the deck. They estimate they spent 5–10 minutes at a time on the deck.

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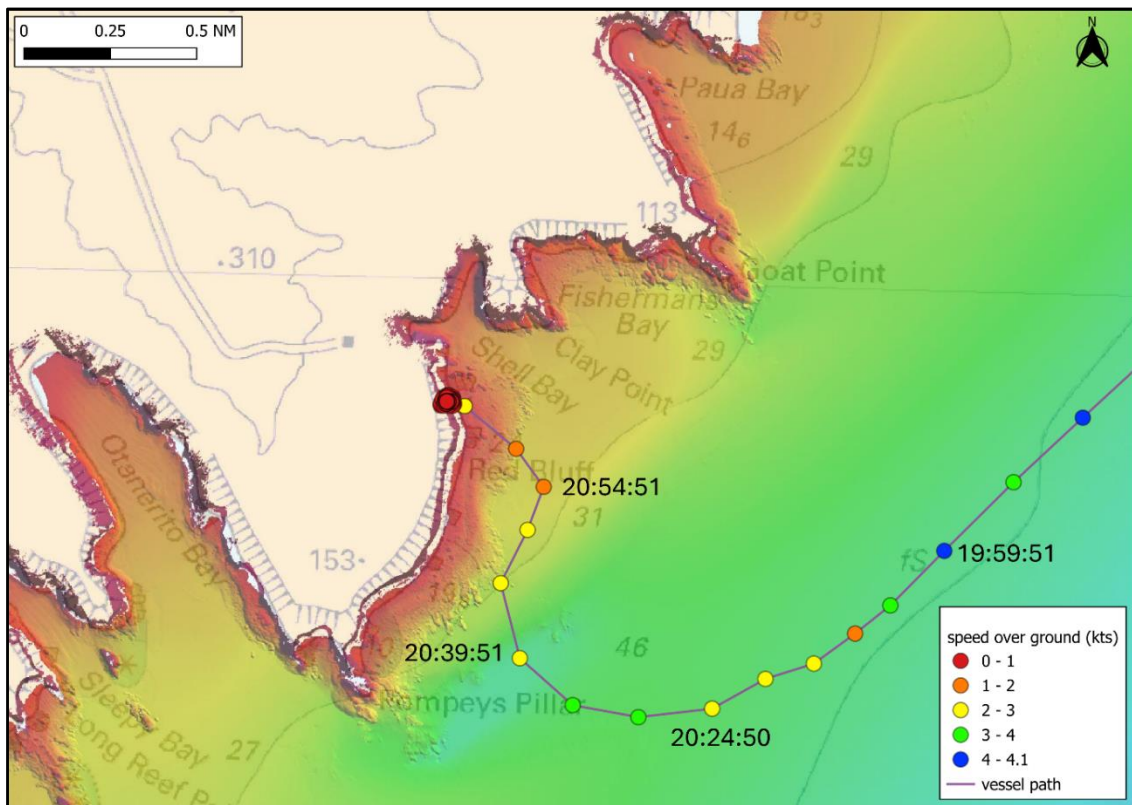
<sup>13</sup> The end of the net where the fish are caught, normally has an easy slip rope to empty the net.

<sup>14</sup> Waves caused by 15 kt wind in the immediate vicinity, typically about 0.5 m high but can occasionally rise to 1.5 m

<sup>15</sup> Ocean waves not generated by wind in the immediate vicinity

<sup>16</sup> A small species of shark found throughout the seas surrounding the southern half of New Zealand; taken as bycatch they are considered a nuisance, as they can severely hamper fishing operations when they become fouled in fishing nets

<sup>17</sup> The right side of a vessel when the viewer is facing forward



- 2.21. At about 2040, the *Austro Carina* was about 0.35 NM from land (see Figure 4). Figure 4: The track of the *Austro Carina* with timestamps
- 2.22. At about 2050, the master was on deck when they felt the vessel shudder. During their interview, the master recalled that when they returned to the wheelhouse, they noticed on the engine monitor that the engines were under more load than usual. From the wheelhouse they observed the net laden with fish hanging over the stern of the vessel, and that a synthetic rope<sup>18</sup> from the aft deck had washed overboard and looked like it was being pulled underwater. The master returned to the deck, retrieved a knife and cut the synthetic rope, which disappeared under the vessel.
- 2.23. During their interview, the master stated that after the rope was cut, they felt the vessel make two small shudders followed by a large shudder. The master suspected that the rope might have entangled in the propeller and broken the long shaft. The master checked the freezer room and the engine room but found no damage. During this time the prevailing swell was pushing the vessel towards land.
- 2.24. At about 2054, the *Austro Carina* made a sharp uncontrolled turn to port and was about 0.16 NM from land, tracking directly towards shallow waters.
- 2.25. At about this time, the master went back to the wheelhouse and saw on the electronic chart display that they were off course and close to the shore. The master put the engines to astern, with the fishing net hanging over the stern but there was no response. During interview, the master stated that they felt the vessel shudder again, and they suspected that the net had also been sucked into the propeller, and that the shuddering was probably because of the keel touching the seabed.
- 2.26. At about the same time, waves started breaking over the aft deck and the master and the crew donned their lifejackets.

<sup>18</sup> Also referred to as synthetic line or fancy line

- 2.27. During their interview, the master stated that they returned to the rear deck of the vessel and retrieved the net using the net roller. The net was damaged and had no fish.
- 2.28. The master made another attempt to go astern at full power, but the vessel continued drifting towards the shore and touching the seabed more frequently. Soon after the main engine shut down.
- 2.29. The master used the VHF radio to make several Mayday<sup>19</sup> calls but when they did not receive any reply, they activated the vessel's EPIRB<sup>20</sup>.
- 2.30. At approximately 2137, Rescue Coordination Centre New Zealand (RCCNZ) received the EPIRB distress message, which included a GPS position of the distress. They immediately started verifying the distress and scope of the rescue.
- 2.31. At 2149, RCCNZ tasked a Christchurch-based helicopter to deploy to the site.
- 2.32. By this time, the vessel was only a few metres from the shore. The crew launched a life raft and secured it to the side of the vessel using the painter<sup>21</sup>. One crew member swam ashore with a rope attached to the life raft. Using the life raft, the painter and the rope, the remaining crew and the master made their way safely to shore.
- 2.33. At about 2231, the helicopter departed from its base towards the distress location.
- 2.34. At about the same time as the helicopter was approaching the eastern rise of Banks Peninsula, the master of the *Austro Carina* activated two rocket parachute flares to attract attention. These were spotted by the helicopter crew.
- 2.35. At 2255 the helicopter pilot advised RCCNZ that they had located the *Austro Carina*, which had run aground,<sup>22</sup> and that four crew members were visible ashore at Red Bay.
- 2.36. By 0011 on 25 September 2023, the crew were transferred by helicopter from the shore to farmland above the shoreline. Later, the helicopter returned to Christchurch with the four crew.
- 2.37. The stranded<sup>23</sup> *Austro Carina* (see Figure 5) was assessed as constructive total loss<sup>24</sup> by the insurers.
- 2.38. The insurers worked closely with Environment Canterbury to clean up the beach and limit any impact on marine life and the environment.
- 2.39. On 12 October 2023, TAIC investigators examined the vessel's GPS chart plotter and computers. The chart-plotting equipment could not be powered up or checked by investigators because of water damage.
- 2.40. The insurers engaged a salvage company to remove the wreck from Red Bay; because of unfavourable weather conditions this task was not started until January 2024 and was completed in February 2024.

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<sup>19</sup> The internationally recognised maritime distress call over radio communications used to indicate that a vessel, aircraft or person is in grave and imminent danger and requires immediate assistance

<sup>20</sup> Emergency Position-Indicating Radio Beacon

<sup>21</sup> A rope connection between a strong point on the ship and the life raft

<sup>22</sup> When a ship or a boat is touching the seabed and is unable to move

<sup>23</sup> When a ship or a boat is aground and cannot be refloated without assistance

<sup>24</sup> The damage to the vessel is extensive, the cost of salvage and repairs would exceed the insured value



**Figure 5: The stranded *Austro Carina***  
(Credit: Mr G Finlayson)

- 2.41. During interview, the master stated that they believed that a rope became entangled around the propeller. The Police dive squad made a video recording from an underwater survey of the vessel and its surroundings before the salvage operations to remove the wreck started. From the video, the Commission was unable to determine if there were any fragments of rope or fishing net entangled around the propeller. After the vessel was salvaged, TAIC investigators inspected the propeller. There was no indication of a rope or net around the propeller, shaft or wedged between the kort nozzle<sup>25</sup> (see Figure 6) and propeller. The Commission was unable to determine whether a rope may have become entangled around the propeller.

### ***Vessel information***

- 2.42. The *Austro Carina* was built in 1977 as a 24-m steel-hulled fishing trawler. It was lengthened<sup>26</sup> to 25.6 m by Lyttelton Engineering in 1983. It was operated by Pegasus Fishing Limited (the company).
- 2.43. The *Austro Carina* had a forward engine room and was propelled by a 400-horsepower (hp) diesel engine, coupled to a long shaft and a four-blade propeller. The propeller was fitted within a kort nozzle. The engine was connected to a computer, located in the wheelhouse, that displayed a digital reading of the load on the engine.

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<sup>25</sup> A non-rotating nozzle fitted around a marine propeller, used to improve the efficiency of the propeller

<sup>26</sup> To accommodate additional fish holds



**Figure 6: Kort nozzle**  
(Credit: Mr A Chandler)

- 2.44. The vessel's steering system comprised a hydraulic ram and tiller system connected to a steel rudder.
- 2.45. The vessel's electronic navigation equipment included a GPS chart plotter, a radar, depth sounder and speed log. The vessel also had back-up paper navigation charts and chart-plotting equipment.



- 2.46. The *Austro Carina* was fitted with a Furuno NavNet navigation system. The system integrated navigational equipment such as radar, GPS, echo sounder, heading sensor and chart display.
- 2.47. The radar had two safety features: a guard zone and a grounding alarm feature. This meant that the operator could designate a guard zone and when any targets, such as ships, islands, landmasses or other navigation hazards, violated the guard zone, an audio alarm sounded. The grounding alarm allowed the operator to define a safe shallow depth, and the system continuously scanned the electronic chart data in front of the vessel to detect charted dangers.
- 2.48. The company had implemented two previous recommendations made by the Commission regarding watchkeeping alarms<sup>27</sup> and had fitted the *Austro Carina* with a watchkeeping alarm system.
- 2.49. Watchkeeping alarm systems are automated systems designed to monitor the alertness of watchkeepers, while the vessel is underway. A series of indications and alarms, which activate at preset intervals in the wheelhouse, require the watchkeeper to acknowledge and silence the alarm. If an alarm is not acknowledged promptly, the system alerts another watchkeeper or the master, indicating that urgent attention is required in the wheelhouse. The system helps to manage the safety of the ship in the event of the watchkeeper being incapacitated by a medical condition, falling asleep or being distracted by other non-watchkeeping activities such as fishing.
- 2.50. The watchkeeping alarm on the *Austro Carina* was set up to automatically activate audio and visual alarms in the wheelhouse every 13 minutes that required the watchkeeper to intervene and reset the alarm. If the alarm was not reset within 1 minute, another louder alarm would sound. The alarm could be heard from the back deck.
- 2.51. In November 2022, the *Austro Carina* was surveyed while it was laid up at Lyttelton. The surveyor determined that the vessel complied with the provisions of Maritime New Zealand's (MNZ's) Maritime Rules and Marine Protection Rules for a fishing vessel of its size and operating limits, and a Certificate of Survey was issued.
- 2.52. An MNZ Maritime Officer conducted a Maritime Operator Safety System (MOSS) audit in May 2023 and verified that the vessel and the company complied with their Maritime Transport Operator Plan (MTOPlan).

## **Personnel information**

- 2.53. The master of the *Austro Carina* held a current New Zealand Offshore Watchkeeper (NZOW) Certificate, last assessed in December 2022 and valid for 5 years. They were also the qualified engineer on the vessel. The master had been with the company for about 20 years, primarily as an engineer ashore but also occasionally on the vessels as a mate-engineer or a master. As a mate-engineer their responsibilities included maintaining the engines and equipment and, while fishing, operating deck machinery and overseeing fishing activities on deck.

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<sup>27</sup> Transport Accident Investigation Commission. (2002). Maritime Inquiry MO-2001-212: Fishing vessel "Hans", sinking, Tory Channel, 19 August 2001, Recommendation 010/02; Transport Accident Investigation Commission. (2004). Maritime Inquiry MO-2004-205: Fishing vessel "Bronny G", grounding, Steep Head, Banks Peninsula, 26 March 2004, Recommendation 041/04

- 2.54. Before accepting the role of permanent master, they spent about a year on the *Austro Carina* as a mate-engineer. At the time of the accident, they had been the permanent master for about three months.
- 2.55. One of the two deckhands had 15 years' experience working on fishing vessels and had worked with the company for about 9 years. They had an Advanced Deckhand – Fishing (ADH-F) certificate, issued by MNZ in February 2021.
- 2.56. The other deckhand had 20 years' experience working on fishing vessels. They had worked with the company for about 10 years. They had been trained as a watchkeeper overseas but did not have a New Zealand-issued certificate. They had attended a watchkeeping refresher course organised by the company in April 2023. The course was conducted by Westport Deep Sea Fishing School and was modelled around MNZ's competency framework for ADH-F.
- 2.57. The primary language of the two deckhands was Indonesian. English, which was the working language of the vessel, was their second language. The company provided relevant documents and the standing orders in both English and Indonesian. Additionally, when there were substantive work meetings, the company ensured that an Indonesian interpreter was available. There was no evidence to indicate that language was a factor leading to this accident.
- 2.58. The mate was an extra crew member on board, exceeding the minimum safe-manning crewing requirements for the vessel. They had been with the company for 3 months and had about 10 months of fishing experience over 12 years. This was the second fishing vessel they had worked on. In this entry-level role, they had no formal training and did not hold a certificate of competency as none was required.

## **Previous occurrences**

- 2.59. Since 1998, the Commission has investigated and published 10 reports<sup>28</sup> of serious incidents that involved fishing vessels. The safety themes described in these reports were:
  - poor watchkeeping standards, including preoccupation with non-watchkeeping duties
  - inadequate crew resource management leading to fatigue
  - lack of a watchkeeper monitor alarm for single-handed bridge operation
  - the operator, skipper and crew not implementing Maritime Rule Part 31: Crewing and Watchkeeping, Subpart C – Fishing Vessels
- 2.60. The overarching themes of the recommendations from those reports were to:
  - implement watchkeeping standards as required by Maritime Rule Part 31, including training to enhance watchkeeping skills, ensuring compliance with the rule

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<sup>28</sup> MO-1998-209: Fishing trawler "San Rakaia", grounding; MO-1998-214: Fishing trawler "Dong Won 529", grounding; MO-2000-209: Fishing charter vessel "La Nina", grounding and foundering; MO-2001-212: Fishing vessel "Hans", sinking; MO-2004-205: Fishing vessel "Bronny G", grounding; MO-2004-207: Fishing vessel "Poseidon", grounding; MO-2004-209: Fishing vessel "Joanne" and motor tanker "Hellas Constellation", collision; MO-2006-203: Fishing vessel "Venture," grounding; MO-2020-201: Collision between bulk carrier Rose Harmony and fishing vessel Leila Jo; MO-2021-203: Collision between fishing vessel 'Commission' and container ship 'Kota Lembah'

- update the safety management system manual to minimise the risk of accidents and incidents caused by poor watchkeeping and fatigue
- implement procedures to ensure that watchkeeping alarms, independent of all other equipment, are fitted and used in the wheelhouse whenever a navigational watch is undertaken
- train all crew members in crew resource management to improve teamwork, awareness, and response to dangers
- review auditing procedures to ensure they reflect real practices and confirm that documented procedures are being followed.

## 3 Analysis

### Tātaritanga

#### Introduction

- 3.1. The following section analyses the circumstances surrounding the event to identify those factors that increased the likelihood of the event occurring or increased the severity of its outcome. It also examines any safety issues that have the potential to adversely affect future operations.
- 3.2. The *Austro Carina* with four crew on board, was on a commercial day fishing trip 3.5 NM east of Banks Peninsula, along the 50 m isobath.
- 3.3. The vessel was compliant with all the relevant maritime requirements for the type of vessel, the location and the operation. During the day no mechanical issues were reported and all navigational and electronic equipment functioned as designed.
- 3.4. During interview, the master stated that they believed that the entangled rope had caused the vessel to turn to port. The Commission analysed all available evidence, including:
  - shallow water effect
  - mechanical failure
  - rope entanglement
  - net entanglement
  - sea conditionsbut were unable to find a definitive cause of the turn to port by the vessel.
- 3.5. However, the Commission was able to determine the cause of the stranding, being inadequate watchkeeping procedures on board the vessel in the immediate lead up to the accident. The *Austro Carina* wheelhouse was unmanned while the vessel executed a slow turn to starboard in fading daylight. The vessel's radar was not used to its full potential and the watchkeeping alarm had been turned off.

#### Maintaining a safe navigational watch

*Safety issue 1: Chapter IV of the Annex to STCW-F addresses collision, stranding and safe navigation. However, MNZ's seafarer competency framework and the vessel operator's safety management system primarily focus on collision avoidance and inadequately address stranding and safe navigation. This increases the risk of watchkeepers on fishing vessels not always maintaining a safe navigational watch when fishing.*

- 3.6. The drivers behind the current lookout and watchkeeping practices within the fishing industry are multifaceted and complex. They include economic constraints (particularly for smaller operators), and interactions with other drivers of harm such as fatigue, historical practices and attitudes to compliance. The following section outlines the factors that the Commission identified as having contributed to this accident.
- 3.7. New Zealand ratified the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F) in 1995.

- 3.8. The STCW-F outlines the requirements for certification and minimum training and the watchkeeping standards for fishing vessel personnel. The aim was to promote the safety of life at sea and the protection of the marine environment, considering the unique nature of the fishing industry and the working environment.
- 3.9. The STCW-F was given legal effect in New Zealand through the Maritime Rules, specifically Maritime Rules Part 31, which addresses crewing and watchkeeping.
- 3.10. Maritime Rules Part 31.85(1) states that:

The master of a fishing vessel to which this subpart applies must ensure that any navigational watchkeeping arrangements are adequate to maintain a safe watch taking into account the basic principles set out in Chapter IV of the Annex to STCW-F.
- 3.11. Maritime Rules Part 31.85(2) states that:

In performing duties relevant to a navigational watch on a fishing vessel to which this subpart applies, the owner and master of the ship and any person engaged in watchkeeping duties on the ship must take account of the standards for watchkeeping set out in Chapter IV of the Annex to STCW-F.
- 3.12. Maritime Rules Part 31.85(5) states that:

Any person who under subrules (1) to (4) is required to take into account principles or standards in STCW-F or the Document for Guidance on Training and Certification of Fishing Personnel may take those principles or standards into account with any necessary modifications that are required because of the type of fishing vessel and operation.
- 3.13. Chapter IV of the Annex to STCW-F (Chapter IV) sets out the basic principles to be observed in keeping a navigational watch on board fishing vessels (see Figure 7). For the complete Chapter IV see Appendix 1.

<p>2</p> <p>The skipper of every fishing vessel shall ensure that watchkeeping arrangements are adequate for maintaining a safe navigational watch. Under the skipper's general direction, the officers of the watch are responsible for navigating the fishing vessel safely during their periods of duty, when they will be particularly concerned with avoiding collision and stranding.</p>
<p><b>4</b>     <b><i>En route to or from fishing grounds</i></b></p> <p>4.1     <i>Arrangements of the navigational watch</i></p> <p>4.1.1   The composition of the watch shall at all times be adequate and appropriate to the prevailing circumstances and conditions, and shall take into account the need for maintaining a proper look-out.</p> <p>4.1.2   When deciding the composition of the watch the following factors, <i>inter alia</i>, shall be taken into account:</p> <ul style="list-style-type: none"> <li>.1       at no time shall the wheelhouse be left unattended;</li> <li>.2       weather conditions, visibility and whether there is daylight or darkness;</li> <li>.3       proximity of navigational hazards which may make it necessary for the officer in charge of the watch to carry out additional navigational duties;</li> <li>.4       use and operational condition of navigational aids such as radar or electronic position-indicating devices and of any other equipment affecting the safe navigation of the vessel;</li> <li>.5       whether the vessel is fitted with automatic steering; and</li> <li>.6       any unusual demands on the navigational watch that may arise as a result of special operational circumstances.</li> </ul>
<p><b>6</b>     <b>Vessels engaged in fishing or searching for fish</b></p> <p>6.1     In addition to the principles enumerated in paragraph 4, the following factors shall be considered and properly acted upon by the officer in charge of the watch:</p> <ul style="list-style-type: none"> <li>.1       other vessels engaged in fishing and their gear, own vessel's manoeuvring characteristics, particularly its stopping distance and the diameter of turning circle at sailing speed and with the fishing gear overboard;</li> <li>.2       safety of the crew on deck;</li> <li>.3       adverse effects on the safety of the vessel and its crew through reduction of stability and freeboard caused by exceptional forces resulting from fishing operations, catch handling and stowage, and unusual sea and weather conditions;</li> <li>.4       the proximity of offshore structures, with special regard to the safety zones; and</li> <li>.5       wrecks and other underwater obstacles which could be hazardous for fishing gear.</li> </ul>

**Figure 7: Extract from Chapter IV of the Annex to STCW-F**

### Maritime New Zealand watchkeeping guidelines

3.14. Maritime New Zealand published guidance documents giving advice about good watchkeeping practices, how to manage risks to safety, and legal obligations. The following guidance documents covered the duties of owners, operators and workers conducting fishing operations in New Zealand:

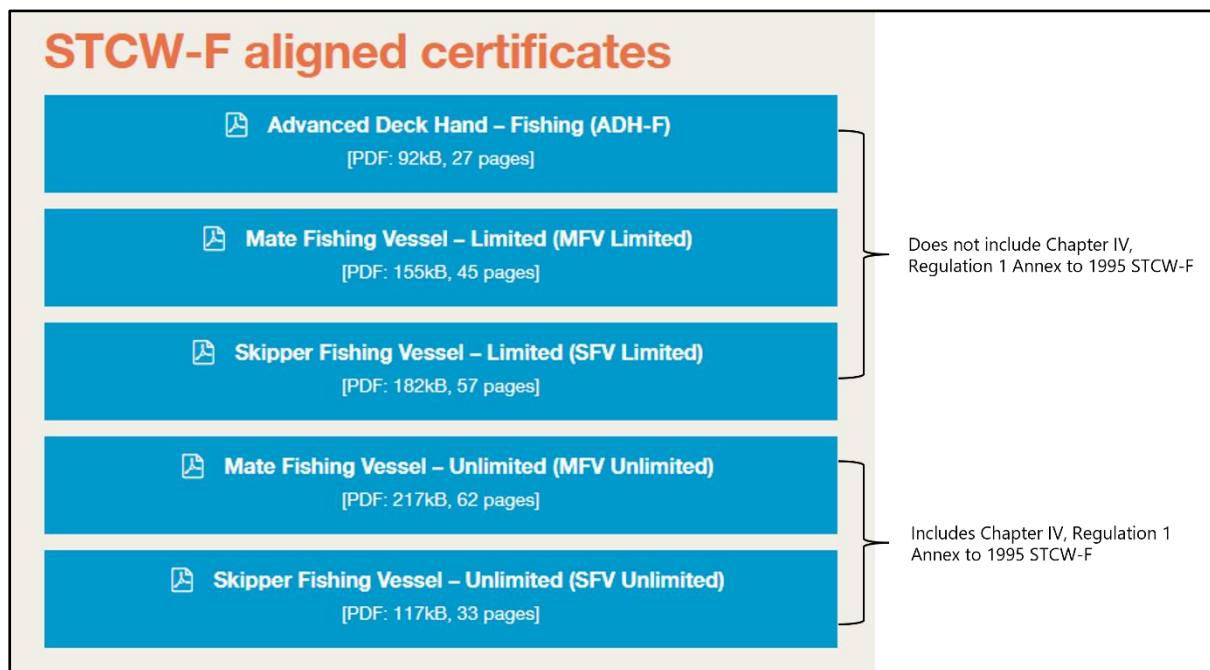
- *Watchkeeping – Guidelines for fishing vessel owners and operators (April 2023)*
  - *Keeping a watch – Guidance for crew on fishing vessels (April 2023)*
- 3.15. Maritime New Zealand have carried out a significant review in regard to watchkeeping and in April 2024 published revised guidelines *Watchkeeping – Guidelines for fishing vessel owners and operators*.
- 3.16. These documents provided guidance to owners, operators and watchkeepers of fishing vessels regarding watchkeeping. The documents were specific about their obligations under the Health and Safety at Work Act 2015 (HSWA) and Maritime Rules Part 22.5 and Part 31, which include the basic principles to be observed in keeping a navigational watch on board fishing vessels as set out in Chapter IV.

### **Maritime New Zealand competency frameworks for STCW-F-aligned certificates**

- 3.17. Maritime New Zealand’s education and training framework was developed to ensure that seafarers who successfully completed their training in New Zealand have the competencies, skills and experience required to meet New Zealand education standards and maritime rules and are aligned with international conventions.
- 3.18. Maritime New Zealand has set competencies that must be achieved for each of the certificates. New Zealand’s maritime training schools develop training courses based on these competencies, and the training courses are approved by the New Zealand Qualifications Authority.
- 3.19. The *Austro Carina* master’s ring-fenced<sup>29</sup> NZOW certificate was assessed by Maritime New Zealand to have met the requirements for a Skipper Fishing Vessel – Limited (SFV – Limited) certificate as per Figure 8.
- 3.20. The holder of a SFV – Limited certificate is expected to be able to perform the functions and duties of master on a fishing vessel of less than 45 m overall length operating in inshore fishing limits and in limited waters.
- 3.21. The holder of an Advanced Deckhand – Fishing (ADH-F) certificate is expected to be able to perform the functions and duties of deckhand on fishing vessels of any length and in any operating area.
- 3.22. While Maritime New Zealand’s competency framework for Skipper Fishing Vessel – Unlimited explicitly requires that the applicant demonstrates knowledge of the content of the basic principles to be observed in keeping a navigational watch on board a fishing vessel, as prescribed in Chapter IV, the competency framework applying to SFV – Limited and ADH-F certificates when they were issued did not (see Figure 8).

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<sup>29</sup> A regulatory framework that permits mariners with legacy certifications to retain their credentials, thereby avoiding the expense of transitioning to a new qualification, these certificates are not STCW aligned



**Figure 8: Maritime New Zealand competency framework for STCW-F-aligned certificates**

- 3.23. The likelihood of watchkeeping errors on board fishing vessels could be reduced if the basic principles to be observed in keeping a navigational watch as outlined in Chapter IV were included in the competency framework for all certificates.
- 3.24. The Commission found that more can be done to inform seafarers of the benefits of good watchkeeping and have made a recommendation to MNZ to review its competency frameworks for STCW-F-aligned certificates to ensure that they include the basic principles as outlined in Chapter IV.

### The company's safety management system

- 3.25. The MNZ Maritime Operator Safety System (MOSS) was introduced on 1 July 2014 as a new regulatory system for maritime safety. The MOSS system was intended to improve safety and protection of the marine environment associated with domestic commercial vessels in New Zealand.
- 3.26. Under MOSS, an operator is required<sup>30</sup> to develop and prepare a Maritime Transport Operator Plan (MTO) for each vessel they operate. The MTO details the specific risks associated with the vessel's intended operation, and a safety system of procedures and controls to mitigate the risks.
- 3.27. The MTO is assessed by MNZ to ensure it contains the required components, such as risk management, training and maintenance. To ensure it is appropriate, MNZ conducts a site visit, during which the operator demonstrates various aspects of the MTO.
- 3.28. Under Maritime Rule 19.22, the Director of Maritime New Zealand must grant a Maritime Transport Operator Certificate (MTOC) if satisfied that the operator's MTO has met all the requirements as specified in Maritime Rule Part 19 and section 41 of the Maritime Transport Act 1994. An MTOC is valid for 10 years.

<sup>30</sup> By Maritime Rule 19.41.



- 3.29. It was the operator's responsibility to ensure that the MTOP was a living document, by assessing risks and addressing them as they arose. Maritime New Zealand conducts periodic MOSS audits to verify how the operator is performing against their MTOP.
- 3.30. In December 2022, the company engaged an auditor to go to sea on *Austro Carina* for a week and review the operation of the vessel regarding safe operation, health and safety, and any potential risks. The auditor reported back to the company, which made minor changes as a result of this review but, overall, the auditor did not report there were any significant issues.
- 3.31. In March 2023, the company contracted an external provider to conduct a MOSS assessment of their policies and procedures and make recommendations based on Maritime Transport Act 1994 and HSWA 2015 requirements. The assessment was aimed to audit the company against their operator plan under the MTOC. The assessment concluded:
- Pegasus Fishing are being proactive by requesting an independent assessment and are taking the safety of their operations seriously. As with all systems they must be monitored and improved on a regular basis, as standards continue to change and remaining current with these changes not only reduces risk but improves compliance and results in a lower risk operation.
- 3.32. Following the *Leila Jo* accident<sup>31</sup>, the company identified areas for improvement to watchkeeping. They sponsored their deckhands to complete the ADH-F certification course and their masters to complete the Skipper Coastal/Offshore (SCO) certification course. The company also provided funding to develop a one-day introductory and refresher training course relating to watchkeeping, which was open to all crew in the industry. In addition to the training provided, the company installed an intercom so that watchkeepers could remain in the wheelhouse while communicating with other crewmembers.
- 3.33. The company's MTOP for the *Austro Carina* contained guidance regarding safe operating procedures but did not cover all the basic principles to be observed in keeping a navigational watch on board fishing vessels, as described in Chapter IV, specifically while the vessel was engaged in fishing (see Section 6 of Chapter IV).
- 3.34. The MTOP included the company's standing orders for watchkeeping. The standing orders were printed in two languages, English and Indonesian, and posted in the wheelhouse and formed part of the log book (see Appendix 2). The standing orders required the wheelhouse to be attended while steaming<sup>32</sup> to or from fishing grounds.
- 3.35. The MTOP included two other documents, the *Memorandum To Skippers Watchkeeping* form and the *Watchkeeping Training Requirements* checklist (see Appendix 2).
- 3.36. The *Memorandum To Skippers Watchkeeping* form required the wheelhouse to be attended at all times while inside harbour limits and for the watchkeeping alarm to be activated when steaming.
- 3.37. The *Watchkeeping Training Requirements* checklist was printed in two languages, English and Indonesian. The checklist was signed off by the master when they were satisfied that a deckhand had demonstrated their ability to keep a navigational watch

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<sup>31</sup> Transport Accident Investigation Commission. (2021). Maritime Inquiry MO-2020-201: Collision between bulk carrier *Rose Harmony* and fishing vessel *Leila Jo*, Off Lyttelton, 12 January 2020.

<sup>32</sup> Making way through the water

(see Appendix 2). This checklist required the watchkeeping alarms to be activated at all times.

- 3.38. The *Memorandum To Skippers Watchkeeping* form and the *Watchkeeping Training Requirements* checklist had conflicting information on activation of the watchkeeping alarms.
- 3.39. The standing orders, *Memorandum To Skippers Watchkeeping* form and the *Watchkeeping Training Requirements* checklist, addressed the function of a lookout in relation to the collision avoidance rules, but did not include the basic principles to be observed in keeping a safe navigational watch on fishing vessels. These documents required the wheelhouse to be manned while steaming to and from the fishing grounds but did not include specific requirements or instructions for the wheelhouse to be attended or for the watchkeeping alarms to be turned on while the vessel was engaged in fishing.
- 3.40. The master had reduced the vessel's speed to 2 kt and started a slow turn to starboard. The starboard turn took the vessel closer to land. The master then left the wheelhouse unattended and went on deck to assist with the removal of spiny dogfish from the net. This meant that the wheelhouse was left unattended while in close proximity to navigational hazards and no one was performing watchkeeping duties.
- 3.41. From the interviews with the crew, the Commission found that it was not unusual for the master to step away from watchkeeping duties during fishing activity to help on deck and that was not explicitly prohibited by standing orders. Had the master maintained a continuous navigational watch it is **virtually certain** that they would have adjusted the vessel's course and speed to avoid the stranding.
- 3.42. The company had fitted a watchkeeping alarm and had documented procedures and training requirements. Had the watchkeeping alarm been on, it would have activated after the preset time interval of 13 minutes had elapsed, requiring the master to reset it in the wheelhouse. This would have given the master an opportunity to check the vessel's position and the progress of the turn and, if required, adjust the course and speed to avoid navigational dangers.
- 3.43. The vessel was equipped with a radar but the safety features, such as guard zone and grounding alarm, had not been set.
- 3.44. It is crucial that operators develop a full understanding of the navigational tools available to them and that such tools are used appropriately to reduce risk of collision or grounding. Had safety features been set on the radar, they would have alarmed and alerted the crew that the vessel was approaching shallow waters and was close to land, which may have prompted an adjustment to the vessel's course and speed thereby avoiding the stranding.
- 3.45. If the wheelhouse had not been left unattended and without a safe navigational watch and had the navigational tools been used, it is **virtually certain** that the stranding and eventual total loss of the vessel could have been prevented.
- 3.46. The Commission has made a recommendation to the company to review its safety management system and watchkeeping procedures to ensure the navigational watchkeeping principles in Chapter IV are observed during all phases of the voyage.

## Crew resource management

- 3.47. Crew resource management (CRM) is the effective use of all available resources to achieve safe and efficient operations. Operational safety and efficiency are improved when management ashore and the team on board the vessel combine resources such as people, equipment and information with non-technical skills such as situational awareness, decision-making, social skills and communication skills.
- 3.48. The *Austro Carina* had four crew members on board at the time of the accident. The master was recently promoted to the role and had about three months' command experience as the primary master. The master was also an experienced engineer and had previously worked on the *Austro Carina* as a mate-engineer. The two deckhands were experienced fishermen, and both had been trained as watchkeepers. The fourth crew member was a newly appointed mate with limited experience and was on board as a crew member additional to the minimum required safe manning crew of three.
- 3.49. The master was newly promoted, and before that promotion the company had taken the following steps to ensure the master was adequately prepared for the role:
- (1) assigning the master to a vessel with another skipper
  - (2) providing the master with opportunities to skipper the vessel under the supervision of the primary skipper
  - (3) easing the master into the role over time, initially starting off on a relief basis
  - (4) speaking to the master frequently to check in
  - (5) crewing the vessel with two highly experienced and qualified deck hands (6) having a vessel with more than the minimum safe manning crew.
- 3.50. On the final trawl run for the day, the master left the wheelhouse for 5–10 minutes to assist the crew on deck, which was not explicitly prohibited by the standing orders. From the interviews with the crew, the Commission identified that it was not uncommon for the master to step away from the wheelhouse to assist on deck during fishing.
- 3.51. From the interviews with the crew, the Commission found it was normal practice for the master to set a steady course and reduce speed while hauling nets. On this occasion the master had started a slow turn to starboard, to make it easy to haul the net into the rear of the vessel, before leaving the wheelhouse to assist the crew on deck with the fishing activity. It is **about as likely as not** that the crew did not have situational awareness of the vessel's route and therefore did not challenge the master when the master left the wheelhouse to assist on deck.

## 4 Findings

### Ngā kitenga

- 4.1. In the immediate lead up to the grounding, the watchkeeping on the *Austro Carina* did not meet all the basic principles in keeping a navigational watch while fishing, as set out in Chapter IV of the Annex to STCW-F, which are given effect by Maritime Rules.
- 4.2. The *Austro Carina* stranded on rocks at Red Bay on the Banks Peninsula because there was nobody in the wheelhouse monitoring the vessel's course, speed and position while the vessel was turning to starboard.
- 4.3. The master was assisting the crew on deck at the time of the stranding. Had the master maintained a continuous navigational watch, it is **virtually certain** they would have adjusted the vessel's course and speed, avoiding the stranding.
- 4.4. While fishing, it was not uncommon for a master to step away from watchkeeping duties to help out on deck. The company's instructions to the master and watchkeepers were not explicit to require the wheelhouse to be attended at all times while fishing.
- 4.5. The company had fitted a watchkeeping alarm on the vessel and had procedures and training that required it be turned on while steaming. On the day of the accident, the watchkeeping alarm had been turned off while they were fishing. Had the watchkeeping alarm been on, it would have activated after the preset interval, prompting the master to reset the alarm and check the vessel's position, course and speed, thereby avoiding the stranding.
- 4.6. The vessel's radar was equipped with safety features, such as guard zone and a grounding alarm, but none of these features were activated. Had these safety aids been used they may have alerted the master to navigational hazards and action could have been taken to prevent the stranding.
- 4.7. It was normal practice to haul nets while on a steady course at slow speed. On the last haul, the master started a slow turn to starboard while hauling the net. It is **about as likely as not** that the crew did not have situational awareness of the vessel's route and therefore did not challenge the master when the master left the wheelhouse to assist on deck.
- 4.8. After the initial shudder, while the master was dealing with the synthetic rope and fishing net on the rear deck, the *Austro Carina* made a sharp uncontrolled turn to port. After analysis of all available evidence, the Commission could not determine what caused the vessel to make that sharp uncontrolled turn to port.
- 4.9. The emergency response by the crew was effective. The crew followed emergency procedures that they had recently practised and the RCCNZ response to the activated EPIRB resulted in the crew being rescued quickly.

## 5 Safety issues and remedial action

### Ngā take haumaruru me ngā mahi whakatika

#### General

- 5.1. Safety issues are an output from the Commission's analysis. They may not always relate to factors directly contributing to the accident or incident. They typically describe a system problem that has the potential to adversely affect future transport safety.
- 5.2. Safety issues may be addressed by safety actions taken by a participant, otherwise the Commission may issue a recommendation to address the issue.
- 5.3. Two safety issues were identified in this investigation.

#### Maintaining a safe navigational watch

*Safety issue 1: Chapter IV of the Annex to STCW-F addresses collision, stranding and safe navigation. However, MNZ's seafarer competency framework and the vessel operator's safety management system primarily focus on collision avoidance and inadequately address stranding and safe navigation. This increases the risk of watchkeepers on fishing vessels not always maintaining a safe navigational watch when fishing.*

- 5.4. On 15 October 2024, MNZ informed the Commission that they had dedicated significant efforts, over a considerable period, to enhance lookout and watchkeeping in the fishing sector. MNZ acknowledges that good watchkeeping and lookout practices are essential to prevent a range of harms, including collisions, strandings and groundings, and for safe navigation.
- 5.5. MNZ has been actively engaging with the fishing sector on watchkeeping for many years, including having:
  - made watchkeeping and lookout systems and practices a targeted theme in MOSS audits
  - sought to build its understanding of practice and its drivers, including working closely with Fisheries New Zealand on what their observers are experiencing on board vessels
  - taken compliance action, including multiple prosecutions aimed at dissuading a lack of watchkeeping
  - raised awareness in the sector, including through articles, conference presentations and engagement with sector groups
  - published guidance aimed at both crew and skippers, and highlighting the HSWA 2015 obligations that reinforce the rules and system requirements.
- 5.6. MNZ informed the Commission that the International Maritime Organization (IMO) is reviewing the STCW and STCW-F frameworks, and that MNZ is prioritising its engagement in this process. It is also committed to reforming the Seafarer Certification framework in New Zealand, as it is currently complex, inflexible and difficult to navigate.

- 5.7. The Commission acknowledges the work that MNZ is planning to reform the Seafarer Certification framework. As these reforms are still to be completed, the Commission has made a recommendation to MNZ in Section 6 to address this issue.
- 5.8. The Commission could not determine whether the company had taken any action to address this safety issue. Therefore, the Commission has made a recommendation to Pegasus Fishing Limited in Section 6 to address this issue.

## 6 Recommendations Ngā tūtohutanga

### General

- 6.1. The Commission issues recommendations to address safety issues found in its investigations. Recommendations may be addressed to organisations or people and can relate to safety issues found within an organisation or within the wider transport system that have the potential to contribute to future transport accidents and incidents.
- 6.2. In the interests of transport safety, it is important that recommendations are implemented without delay to help prevent similar accidents or incidents occurring in the future.

### New recommendations

- 6.3. On 13 March 2025, the Commission recommended that the Director of Maritime New Zealand review their competency frameworks for STCW-F-aligned certificates, to ensure they include the basic principles to be observed in keeping a navigational watch as set out in Chapter IV of the Annex to STCW-F. **[029/25]**
- 6.4. On 25 March 2025, the Director of Maritime New Zealand replied:

- Maritime NZ reject this recommendation

Maritime NZ considers changing the competency framework is unlikely to resolve this issue. The competency frameworks for STCW-F aligned certificates align closely with international requirements. The rules around what is required for watch (including at a competency level) are, in our view, very clear as outlined in our position statement on watch keeping <https://www.maritimenz.govt.nz/media/rpkbjmn5/lookout-position-statement.pdf>. We do not consider that a review of competency frameworks would have a significant impact on the factors above.

Our strong view, based on ongoing discussions with the sector, are that the drivers of poor lookout and watchkeeping practice are complex; relating to economic constraints (particularly for smaller operators), interactions with other drivers of harm such as fatigue, embedded historical practice, attitudes to government / compliance and a range of other factors. These drivers require an equally multi-faceted harm prevention approach in partnership with the sector and others over time. We would suggest that TAIC considers and encourages work on the wider factors that contribute to poor watchkeeping.

Maritime NZ notes that the STCW framework is being reviewed which will not be complete until around 2030 and the STCW-F framework have just completed a review at the IMO. We are engaging as a priority in this work. If the reviews identify any changes to the conventions or competency requirements we would consider how any changes apply domestically at the appropriate time.

Maritime NZ has had a significant focus on lookout and watchkeeping in the fishing sector for a considerable period of time. As TAIC has noted, this is because good watchkeeping and lookout practice is essential to prevent a range of harms; including collisions, strandings, groundings and safe navigation. However, ensuring good practice remains a challenge.

Maritime NZ is confident that our current framework, work with the sector, and position statement are closely aligned with STCW-F in regards to watch keeping. As such, Maritime NZ do not support the recommendation.

- 6.5. On 13 March 2025, the Commission recommended that Pegasus Fishing Limited review their safety management system and take steps to ensure safe navigational watchkeeping principles are observed during all phases of the fishing operation.

**[030/25]**

- 6.6. On 31 March 2025, Pegasus Fishing Limited replied:

This recommendation can be recorded as accepted and implemented.

Pegasus Fishing took steps immediately after the grounding in September 2023 to review their safety management system which included (but was not limited to) ensuring safe navigational watchkeeping principles were observed during all phases of during the vessel's operation, including fishing operations.

This included engaging an independent third party to carry out a review of the companies documented procedures and systems, to speak with masters and crew to determine their understanding of policies and procedures, including the respective roles of the master and crew, standing orders, and safety navigational and watchkeeping practices; and to observe the implementation of such practices at sea, by attending and observing fishing trips on each vessel. Pegasus Fishing also refers to its comments on relevant parts of the draft report as to its safety management system.

Pegasus Fishing ask that paragraph 5.8 of the final report be amended to include a footnote to record that the Commission finalised its report before it had received information from Pegasus Fishing.



## 7 Key lessons

### Ngā akoranga matua

- 7.1. Chapter IV of the Annex to the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel provides the navigational watchkeeping standards to be followed by all fishing vessels. The risk of groundings and collisions will be higher if these standards are not followed.
- 7.2. The wheelhouse should not be left unattended while the vessel is underway, especially while maneuvering close to navigational dangers.
- 7.3. It is important to safe operations that operators have a full understanding of the navigational tools available to them and that they are used appropriately to reduce the risk of collisions and groundings.
- 7.4. The crew on board a vessel must combine non-technical skills, such as experience, decision-making and communication, to achieve operational safety and efficiency.

## 8 Data summary

### Whakarāpopoto raraunga

#### *Vehicle particulars*

Name:	<i>Austro Carina</i>
Type:	Fishing Trawler
Limits:	Coastal
Length:	25.60 m
Breadth:	5.94 m
Gross tonnage:	141.83 t
Built:	1978
Propulsion:	1 Scania D1 13 70M diesel engine
Owner/operator:	Pegasus Fishing Limited
Port of registry:	Lyttelton, New Zealand
Minimum crew:	3

***Date and time*** 23 September 2023, 2100

***Location*** Red Bay, Banks Peninsula

***Persons involved*** Master, two deckhands and a mate

***Injuries*** No injuries

***Damage*** Vessel was abandoned and deemed by the insurer to be a constructive total loss.

## 9 Conduct of the Inquiry

### Te whakahaere i te pakirehua

- 9.1. On 25 September 2023, Maritime New Zealand notified the Commission of the occurrence. The Commission subsequently opened an inquiry under section 13(1) of the Transport Accident Investigation Commission Act 1990 and appointed an Investigator-in-Charge.
- 9.2. A protection order (No. 2023/206/01) was issued under section 12 of the Transport Accident Investigation Commission Act 1990. The order related to:
  - the wreckage of the *Austro Carina*
  - all equipment and personal effects on board the vessel at the time of the accident.

The protection order did not prevent the master or operator from taking any necessary action for the safety of the vessel, environment and/or any persons on board.

- 9.3. On 28 August 2024, the Commission approved a draft report for circulation to six interested parties for their comment.
- 9.4. Three interested parties provided detailed submissions, and three interested parties did not respond despite efforts to contact them. Any changes as a result of the submissions have been included in the final report.
- 9.5. On 13 March 2025, the Commission approved the final report for publication.

# Abbreviations

## Whakapotonga

ADH-F	Advanced Deckhand – Fishing
EPIRB	Emergency Position-Indicating Radio Beacon
MOSS	Maritime Operator Safety System
MTOC	Maritime Transport Operator Certificate
MTOP	Maritime Transport Operator Plan
NZDT	New Zealand daylight time, which is Coordinated Universal Time (UTC) + 13 hours
NZOW	New Zealand Offshore Watchkeeper certificate, which was ring-fenced
NZST	New Zealand standard time, which is Coordinated Universal Time (UTC) + 12 hours
RCCNZ	Rescue Coordination Centre New Zealand
STCW-F	International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel
SFV	Skipper Fishing Vessel – Limited
SFV-U	Skipper Fishing Vessel – Unlimited

## Glossary

### Kuputaka

astern	referring to a vessel's engine moving the vessel in reverse
aground	when a ship or a boat is touching the seabed and is unable to move
catch sensors	electronic transmitters fitted to the top of the cod end of the net that monitor the amount of catch and warn when the cod end is full
cod end	end of the net where the fish are caught; it normally has an easy slip rope to empty the net
constructive total loss	damage to the vessel is extensive, and the cost of salvage and repairs would exceed the insured value
hauling the net	retrieving the net after fishing
kt	knot
isobath	a line drawn on a chart, indicating the depth of water below the surface.
m	metre
mayday	the internationally recognised maritime distress call over radio communications in cases of extreme emergency where a vessel, aircraft or person is in grave and imminent danger and requires immediate assistance
NM	nautical mile
painter	a rope connection between a strong point on the ship and the life raft
ring-fenced certificates	A regulatory framework that permits mariners with legacy certifications to retain their credentials, thereby avoiding the expense of transitioning to a new qualification, these certificates are not STCW aligned
shooting the net	deploying the net to start fishing

slight seas	waves caused by 15 kt wind in the immediate vicinity, typically about 0.5 m high that can occasionally rise to 1.5 m.
starboard	the right side of a vessel when the viewer is facing forward
stranded	when a ship or a boat is aground and cannot be refloated without assistance
steaming	making way through the water
swell	ocean waves not generated by wind in the immediate vicinity
trawling	towing the net to catch fish
underway	means that a vessel is not at anchor, or made fast to the shore, or aground
watchkeeping alarm	automated alarm designed to monitor the alertness of watchkeepers while the ship is underway
wheelhouse	part of a ship or boat from which a person steers the ship or boat

# Appendix 1: Chapter IV of the Annex to STCW-F

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## Chapter IV Watchkeeping

### Regulation 1

*Basic principles to be observed in keeping a navigational watch on board fishing vessels*

1 Administrations shall direct the attention of owners and operators of fishing vessels, skippers and watchkeeping personnel to the following principles, which shall be observed to ensure that a safe navigational watch is maintained at all times.

2 The skipper of every fishing vessel shall ensure that watchkeeping arrangements are adequate for maintaining a safe navigational watch. Under the skipper's general direction, the officers of the watch are responsible for navigating the fishing vessel safely during their periods of duty, when they will be particularly concerned with avoiding collision and stranding.

3 The basic principles, including but not limited to the following, shall be taken into account on all fishing vessels. However, a Party may exclude very small fishing vessels operating in limited waters from fully observing the basic principles.

#### 4 *En route to or from fishing grounds*

##### 4.1 *Arrangements of the navigational watch*

4.1.1 The composition of the watch shall at all times be adequate and appropriate to the prevailing circumstances and conditions, and shall take into account the need for maintaining a proper look-out.

4.1.2 When deciding the composition of the watch the following factors, *inter alia*, shall be taken into account:

- .1 at no time shall the wheelhouse be left unattended;
- .2 weather conditions, visibility and whether there is daylight or darkness;
- .3 proximity of navigational hazards which may make it necessary for the officer in charge of the watch to carry out additional navigational duties;
- .4 use and operational condition of navigational aids such as radar or electronic position-indicating devices and of any other equipment affecting the safe navigation of the vessel;
- .5 whether the vessel is fitted with automatic steering; and
- .6 any unusual demands on the navigational watch that may arise as a result of special operational circumstances.

##### 4.2 *Fitness for duty*

The watch system shall be such that the efficiency of watchkeeping personnel is not impaired by fatigue. Duties shall be so organized that the first watch at the commencement of a voyage and the subsequent relieving watches are sufficiently rested and otherwise fit for duty.

#### 4.3 *Navigation*

4.3.1 The intended voyage shall, as far as practicable, be planned in advance taking into consideration all pertinent information, and any course laid down shall be checked before the voyage commences.

4.3.2 During the watch the course steered, position and speed shall be checked at sufficiently frequent intervals, using any available navigational aids necessary, to ensure that the vessel follows the planned course.

4.3.3 The officer in charge of the watch shall have full knowledge of the location and operation of all safety and navigational equipment on board the vessel, and shall be aware and take account of the operating limitations of such equipment.

4.3.4 The officer in charge of a navigational watch shall not be assigned or undertake any duties which would interfere with the safe navigation of the vessel.

#### 4.4 *Navigational equipment*

4.4.1 The officers in charge of the watch shall make the most effective use of all navigational equipment at their disposal.

4.4.2 When using radar the officer in charge of the watch shall bear in mind the necessity to comply at all times with the provisions on the use of radar contained in the applicable regulations for preventing collisions at sea.

4.4.3 In cases of need the officer of the watch shall not hesitate to use the helm, engines, sound and light signalling apparatus.

#### 4.5 *Navigational duties and responsibilities*

4.5.1 The officer in charge of the watch shall:

- .1 keep watch in the wheelhouse;
- .2 in no circumstances leave the wheelhouse until properly relieved;
- .3 continue to be responsible for the safe navigation of the vessel despite the presence of the skipper in the wheelhouse until informed specifically that the skipper has assumed that responsibility and this is mutually understood;
- .4 notify the skipper when in any doubt as to what action to take in the interest of safety; and
- .5 not hand over the watch to a relieving officer if there is reason to believe that the latter is not capable of carrying out the watchkeeping duties effectively, in which case the skipper shall be notified.

4.5.2 On taking over the watch the relieving officer shall confirm and be satisfied as to the vessel's estimated or true position and confirm its intended track, course and speed, and shall note any dangers to navigation expected to be encountered during the watch.

4.5.3 Whenever practicable a proper record shall be kept of the movements and activities during the watch relating to the navigation of the vessel.



#### 4.6 *Look-out*

4.6.1 A proper look-out shall be maintained in compliance with Rule 5 of the International Regulations for Preventing Collisions at Sea, 1972. It shall serve the purpose of:

- .1 maintaining a continuous state of vigilance by sight and hearing as well as by all other available means, with regard to any significant changes in the operating environment;
- .2 fully appraising the situation and the risk of collision, stranding and other dangers to navigation; and
- .3 detecting ships or aircraft in distress, shipwrecked persons, wrecks and debris.

4.6.2 In determining that the composition of the navigational watch is adequate to ensure that a proper look-out can continuously be maintained, the skipper shall take into account all relevant factors, including those described under paragraph 4.1 of this regulation, as well as the following factors:

- .1 visibility, state of weather and sea;
- .2 traffic density, and other activities occurring in the area in which the vessel is navigating;
- .3 the attention necessary when navigating in or near traffic separation schemes and other routing measures;
- .4 the additional workload caused by the nature of the vessel's functions, immediate operating requirements and anticipated manoeuvres;
- .5 rudder and propeller control and vessel manoeuvring characteristics;
- .6 the fitness for duty of any crew members on call who may be assigned as members of the watch;
- .7 knowledge of and confidence in the professional competence of the vessel's officers and crew;
- .8 the experience of the officer of the navigational watch and the familiarity of that officer with the vessel's equipment, procedures, and manoeuvring capability;
- .9 activities taking place on board the vessel at any particular time, and the availability of assistance to be summoned immediately to the wheelhouse when necessary;
- .10 the operational status of instrumentation in the wheelhouse and controls, including alarm systems;
- .11 the size of the vessel and the field of vision available from the conning position;
- .12 the configuration of the wheelhouse, to the extent such configuration might inhibit a member of the watch from detecting by sight or hearing any external developments; and
- .13 any relevant standards, procedures and guidelines relating to watchkeeping arrangements and fitness for duty which have been adopted by the Organization.

#### 4.7 *Protection of the marine environment*

The skipper and the officer in charge of the watch shall be aware of the serious effects of operational or accidental pollution of the marine environment, and shall take all possible precautions to prevent such pollution, particularly within the framework of relevant international and port regulations.

#### 4.8 *Weather conditions*

The officer in charge of the watch shall take relevant measures and notify the skipper when adverse changes in weather could affect the safety of the vessel, including conditions leading to ice accretion.

### **5 Navigation with pilot embarked**

The presence of a pilot on board does not relieve the skipper or officer in charge of the watch from their duties and obligations for the safety of the vessel. The skipper and the pilot shall exchange information regarding navigation procedures, local conditions and the vessel's characteristics. The skipper and the officer in charge of the watch shall co-operate closely with the pilot and maintain an accurate check of the vessel's position and movement.

### **6 Vessels engaged in fishing or searching for fish**

6.1 In addition to the principles enumerated in paragraph 4, the following factors shall be considered and properly acted upon by the officer in charge of the watch:

- .1 other vessels engaged in fishing and their gear, own vessel's manoeuvring characteristics, particularly its stopping distance and the diameter of turning circle at sailing speed and with the fishing gear overboard;
- .2 safety of the crew on deck;
- .3 adverse effects on the safety of the vessel and its crew through reduction of stability and freeboard caused by exceptional forces resulting from fishing operations, catch handling and stowage, and unusual sea and weather conditions;
- .4 the proximity of offshore structures, with special regard to the safety zones; and
- .5 wrecks and other underwater obstacles which could be hazardous for fishing gear.

6.2 When stowing the catch, attention shall be given to the essential requirements for adequate freeboard, adequate stability and watertight integrity at all times during the voyage to the landing port, taking into consideration consumption of fuel and stores, risk of adverse weather conditions and, especially in winter, risk of ice accretion on or above exposed decks in areas where ice accretion is likely to occur.

### **7 Anchor watch**

The skipper shall ensure, with a view to the safety of the vessel and the crew, that a proper watch is maintained at all times from the wheelhouse or deck on fishing vessels at anchor.

### **8 Radio watchkeeping**

The skipper shall ensure that an adequate radio watch is maintained while the vessel is at sea, on appropriate frequencies, taking into account the requirements of the Radio Regulations.

## **Appendix 2: Extract from *Austro Carina's* Official Log Book**

# **OFFICIAL LOG BOOK FISHING VESSEL**

# **Austro Carina**

**Operated By: Pegasus Fishing Ltd  
P.O Box 138  
Lyttelton 8841  
Phone :03 - 328-7389  
Fax : 03 - 328-7598**

**It is the masters responsibility to complete and sign this log book every day the vessel is at sea .**

**This log book is to be used in conjunction with the ships safety manual and is part of the Maritime Transport Operator Plan for the vessel .**

**All watch keepers must read and comply with standing orders for watch keepers .**

# Standing Orders

The watch keeper shall maintain a proper watch both visual and listening with regard to the collision regulations at all times .

There is to be a listening watch maintained on V.H.F channel 16 at all times .

The watch keeper shall call the master if the vessel has come into bad weather or restricted visibility, or if any electronic devices on the bridge should fail .

The watch keeper shall call the master in sufficient time if a collision situation or a close quarters situation has been assessed or if the watch keeper is unsure or in doubt about the situation .

The watch keeper shall call the master straight away should he be unable to keep at least 1 mile clear of all vessels in good visibility and at least 2 miles clear of all vessels in restricted visibility .

In the event of an engine room alarm being activated the watch keeper is to call the vessels engineer at once letting him know what the problem is . The master should then be called if it is deemed necessary .

The watch keeper going off watch shall brief the oncoming watch officer of his position and speed and course to this destination ( waypoint and route there to ) plus any whereabouts of vessels in the vicinity and their actions . The oncoming watch keeper shall sign on watch only when they are happy to take over watch .

The watch keeper as well as maintaining a visual watch for navigation purposes will monitor the engineroom and check all bilges.

**If the watch keeper is unsure or in doubt at any time the master is to be called straight away .**

**While steaming to or from the fishing grounds the wheelhouse must not be left unattended.**

## Tata Tertib

Penjaga jam tangan harus menjaga pengamatan baik secara visual maupun pendengaran

Sehubungan dengan peraturan tabrakan setiap saat.

Ada tontonan yang bisa didengarkan di saluran V.H.F 16 setiap saat.

Penjaga jam tangan akan memanggil tuan jika kapal tersebut telah menjadi buruk

Cuaca atau jarak pandang terbatas, atau jika ada perangkat elektronik di jembatan

Harus gagal

Penjaga jam tangan akan memanggil tuannya dalam waktu yang cukup jika terjadi tabrakan

Situasi atau situasi dekat telah dinilai atau jika jam tangan

Penjaga tidak yakin atau meragukan situasi.

Penjaga jam tangan harus segera menghubungi tuannya jika dia tidak mampu

Untuk menjaga setidaknya 1 mil dari semua kapal dalam jarak pandang yang baik dan minimal 2 mil

Mil yang jelas dari semua kapal dalam jarak pandang terbatas.

Jika alarm ruangan mesin diaktifkan, penjaga jam bisa

Untuk memanggil para insinyur kapal sekaligus membiarkan dia tahu apa masalahnya.

Master kemudian harus dipanggil jika dianggap perlu.

Penjaga penjaga yang pergi menonton harus memberi tahu petugas jamuan yang akan datang

Dari posisinya dan kecepatan dan jalur menuju tujuan ini (waypoint dan

Rute ke sana) ditambah di mana sekitar kapal di sekitar dan mereka

Tindakan. Penjaga jam tangan yang akan datang hanya akan berjaga-jaga saat mereka melihatnya

Dengan senang hati mengambil alih jam tangan.

Penjaga jam tangan sekaligus menjaga tampilan visual untuk navigasi

Tujuannya akan memantau engineroom dan memeriksa semua lambung kapal.

**Jika penjaga jam tidak yakin atau ragu kapan pun tuannya berada**

**Langsung dipanggil**

**Saat mengepul ke atau dari tempat pemancingan, ruang kemudi tidak boleh ditinggalkan tanpa pengawasan.**

**MEMORANDUM TO SKIPPERS**  
**WATCHKEEPING**

**THE FOLLOWING INSTRUCTIONS APPLY TO ALL VESSELS OPERATED BY PEGASUS FISHING LTD:**

- 1)→THE SKIPPER WILL BE AT THE WHEEL AT ALL TIMES WHILE INSIDE HARBOUR LIMITS.
  
- 2)→WHEN STEAMING WATCHKEEPING ALARMS MUST BE ACTIVATED.
  
- 3)→NO ONE UNDER 18 YEARS OF AGE IS TO BE ALONE AT THE WHEEL DURING HOURS OF DARKNESS.
  
- 4)→EXCEPT IN EXCEPTIONAL CIRCUMSTANCES THE SKIPPER AND CREW ARE EXPECTED TO HAVE A MINIMUM OF 6 HOURS UNINTERRUPTED SLEEP IN EVERY 24 HOURS. THE SKIPPER MUST PLAN HIS VOYAGES TO ACCOMMODATE THIS.
  
- 5)→WATCHKEEPERS MUST BE TRAINED AND INSTRUCTED AS DETAILED IN THE COMPANY’S SSM MANUAL BEFORE THEY ARE GIVEN A WATCH.
  
- 6)→SKIPPERS NEED TO RECOGNIZE THE SIGNS OF FATIGUE AND PLAN VOYAGES AND WATCH-KEEPING ACCORDINGLY. MARITIME RULE 31C, AS ATTACHED TO THE SSM MANUAL, MUST BE ADHERED TO.

SIGNED BY THE SKIPPER AS READ AND UNDERSTOOD;

.....DATE:.....

PEGASUS FISHING LTD

WATCHKEEPING TRAINING REQUIREMENTS

- 1)→BASIC RULES OF THE ROAD.
- 2)→RECOGNIZING NAVIGATION LIGHTS.
- 3)→OPERATING IN RESTRICTED VISIBILITY.
- 4)→ANCHOR WATCHES.
- 5)→PRINCIPLES BEHIND KEEPING A GOOD LOOKOUT.
- 6)→USE OF COMPASS.
- 7)→MANUAL STEERING.
- 8)→OPERATION OF VHF RADIO (LISTENING WATCHES, DISTRESS CALLS).
- 9)→OPERATION OF ENGINE CONTROLS (EMERGENCY STOP).
- 10)→OPERATION OF RADAR, SOUNDER, AUTO PILOT, PLOTTER.
- 11)→FUNCTION OF ENGINE ALARMS.
- 12)→UNDERSTANDING OF MOSS.
- 13)→SIGNS OF FATIGUE.
- 14)→MINIMUM REST PERIODS.

WATCHKEEPERS ARE INSTRUCTED THAT:

- 1)→ANY CONCERNS ABOUT FATIGUE MUST BE REPORTED TO THE SKIPPER.
- 2)→WATCHKEEPING ALARMS MUST BE ACTIVATED AT ALL TIMES.
- 3)→IF IN ANY DOUBT CALL THE SKIPPER.
- 4)→WHILE STEAMING TO OR FROM THE FISHING GROUNDS THE WHEELHOUSE MUST NOT BE LEFT UNATTENDED.

TRAINING GIVEN BY .....DATE.....

WATCHKEEPER.....DATE.....

NAME (printed)..... Vessel .....



**PERIKANAN PEGASUS LTD**  
**PERSYARATAN PELATIHAN MENONTON**

- 1) ATURAN DASAR DARI JALAN.
- 2) MENGAKUI LAMPU NAVIGASI.
- 3) BEROPERASI DALAM VISIBILITAS YANG DIBATASI.
- 4) JAM TANGAN ANCHOR.
- 5) PRINSIP DI BALIK MENJAGA LOOKOUT YANG BAIK.
- 6) PENGGUNAAN KOMPAS.
- 7) STEERING MANUAL.
- 8) PENGOPERASIAN VHF RADIO (PONSEL MENDENGAR, PANGGILAN DISTRES).
- 9) OPERASI KONTROL MESIN (STOP DARURAT).
- 10) OPERASI RADAR, SOUNDER, AUTO PILOT, PLOTTER.
- 11) FUNGSI ALARM MESIN.
- 12) PEMAHAMAN MOSS ↓
- 13) TANDA LEMBARAN.
- 14) PERIODE SISA MINIMUM.

**PENARA PENGAWAL DIBERIKAN BAHWA:**

- 1) SETIAP MASALAH TENTANG FATIGUE HARUS DILAPORKAN KE SKIPPER.
- 2) ALARM PENYIMPANAN HARUS DIAKTIFKAN SETIAP SAAT.
- 3) JIKA DALAM RAGU, HUBUNGI SKIPPER
- 4) SAAT MENGAPA KE TANAH MEMANCING, RUMAH TIDAK HARUS KIRI TANPA DIPERHATIKAN

PELATIHAN YANG DIBERIKAN OLEH .....TANGGAL .....

WATCHKEEPER ..... TANGGAL .....

NAMA (tercetak) ..... Kapal .....

## Kōwhaiwhai - Māori scroll designs

TAIC commissioned its four kōwhaiwhai, Māori scroll designs, from artist Sandy Rodgers (Ngāti Raukawa, Tūwharetoa, MacDougal). Sandy began from thinking of the Commission as a vehicle or vessel for seeking knowledge to understand transport accident tragedies and how to avoid them. A 'waka whai mārama' (i te ara haumarū) is 'a vessel/vehicle in pursuit of understanding'. Waka is a metaphor for the Commission. Mārama (from 'te ao mārama' – the world of light) is for the separation of Rangitāne (Sky Father) and Papatūānuku (Earth Mother) by their son Tāne Māhuta (god of man, forests and everything dwelling within), which brought light and thus awareness to the world. 'Te ara' is 'the path' and 'haumarū' is 'safe' or 'risk free'.

### **Corporate: Te Ara Haumarū - the safe and risk free path**



The eye motif looks to the future, watching the path for obstructions. The encased double koru is the mother and child, symbolising protection, safety and guidance. The triple koru represents the three kete of knowledge that Tāne Māhuta collected from the highest of the heavens to pass their wisdom to humanity. The continual wave is the perpetual line of influence. The succession of humps represents the individual inquiries.

Sandy acknowledges Tāne Māhuta in the creation of this Kōwhaiwhai.

### **Aviation: Ngā hau e whā - the four winds**



To Sandy, 'Ngā hau e whā' (the four winds), commonly used in Te Reo Māori to refer to people coming together from across Aotearoa, was also redolent of the aviation environment. The design represents the sky, cloud, and wind. There is a manu (bird) form representing the aircraft that move through Aotearoa's 'long white cloud'. The letter 'A' is present, standing for a 'Aviation'.

Sandy acknowledges Ranginui (Sky father) and Tāwhirimātea (God of wind) in the creation of this Kōwhaiwhai.

### **Maritime: Ara wai - waterways**



The sections of waves flowing across the design represent the many different 'ara wai' (waterways) that ships sail across. The 'V' shape is a ship's prow and its wake. The letter 'M' is present, standing for 'Maritime'.

Sandy acknowledges Tangaroa (God of the sea) in the creation of this Kōwhaiwhai.

### **Rail: rerewhenua - flowing across the land**



The design represents the fluid movement of trains across Aotearoa. 'Rere' is to flow or fly. 'Whenua' is the land. The koru forms represent the earth, land and flora that trains pass over and through. The letter 'R' is present, standing for 'Rail'.

Sandy acknowledges Papatūānuku (Earth Mother) and Tāne Mahuta (God of man and forests and everything that dwells within) in the creation of this Kōwhaiwhai.



## Transport Accident Investigation Commission

### Recent Maritime Occurrence reports published by the Transport Accident Investigation Commission (most recent at top of list)

MO-2023-202	Collision between Passenger Ferry, Waitere and recreational vessel, Onepoto, Paihia, Bay of Islands, 13 April 2023
MO-2023-204	Bulk carrier, Poavosa brave, serious injury, off Tauranga, 23 June 2023
MO-2022-203	Container vessel, Capitaine Tasman, stevedore fatality during container loading operations, Port of Auckland, 19 April 2022
MO-2022-202	Bulk carrier, ETG Aquarius, stevedore fatality during coal loading operations, Lyttelton port, 25 April 2022
MO-2022-207	Fishing vessel Boy Roel, serious workplace injury, Off Tauranga, Bay of Plenty, New Zealand, 12 December 2022
MO-2022-206	Charter fishing vessel i-Catcher, Capsize, Goose Bay, Kaikōura, New Zealand, 10 September 2022
MO-2023-201	Passenger vessel Kaitaki, Loss of power, Cook Strait, New Zealand, 28 January 2023
MO-2021-204	Recreational vessel, capsized and sinking with three fatalities, Manukau Harbour entrance, 16 October 2021
MO-2021-205	Container vessel Moana Chief, serious injury to crew member, Port of Auckland, New Zealand, 10 December 2021
MO-2020-205	General cargo vessel, Kota Bahagia, cargo hold fire, Napier Port, 18 December 2020
MO-2021-202	Factory fishing trawler Amaltal Enterprise Engine room fire, 55 nautical miles west of Hokitika, 2 July 2021
MO-2021-203	Collision between fishing vessel 'Commission' and container ship 'Kota Lembah', 84 nautical miles northeast of Tauranga, Bay of Plenty, New Zealand, 28 July 2021

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