

MO-2014-203 Executive summary

- 1.1. The *Captain M. J. Souza* is a New Zealand-registered purse seine fishing vessel that was operating in the Pacific Ocean approximately 650 nautical miles north of Samoa.
- 1.2. On 24 August the vessel was engaged in a routine fishing operation when a nylon rope sling that was securing one end of the fishing net to the vessel broke. The weight of the net was then transferred to an approximately 48-millimetre-diameter nylon rope called a safety choker line, which was designed to retain the net end in the event of the rope sling failing.
- 1.3. The crew rigged another rope to alleviate the load on the safety choker line, then continued to close the net around the school of tuna. Soon afterwards the safety choker line broke at a bowline knot that had been tied in the rope and recoiled, striking one of the deck crewmembers in the head. The crewmember died instantly.
- 1.4. The Transport Accident Investigation Commission (Commission) **found** that the safety choker rope broke because it was in a deteriorated condition and was further weakened by the bowline knot that had been used to attach it to the net end.
- 1.5. The Commission also **found** that the broken rope was about as likely as not to have begun its life in service at a lower-than-typical breaking load for a rope of that size and construction. However, it could not be determined why, because the rope management plan on board was not effectively managing the purchase, storage, inspection and retirement from service of the ropes on board.
- 1.6. The Commission also found that the safety management system on board the *Captain M. J. Souza* provided good guidelines for the management and use of ropes on board. However, neither the crew nor the skipper nor shore management were ensuring that the safety management system was being adequately followed.
- 1.7. The Commission made a **recommendation** to the operator of the *Captain M. J. Souza* regarding improving its internal auditing procedures on board.
- 1.8. The **key lessons** arising from this inquiry included:
 - tying a knot in a fibre rope will reduce its strength. It is therefore important to factor in this reduction in strength when tying a knot in a rope for a specific operation
 - fibre ropes can fail due to cyclic tension loading, a form of fatigue damage that can be difficult to see in braided ropes. Mariners must look beyond rope surface appearance alone when deciding whether to retire ropes from service.