



Accident Report

Physalie

Grounding Between Whites Bay
& Robinhood Bay
on 13 June 2004



REPORT NO.: 04 3492

VESSEL NAME: *PHYSALIE*

Casualty Details:

Date of Casualty: 17 June 2004

Time of Casualty: 0600 hours New Zealand Standard Time (NZST)

Casualty Type: Grounding

Casualty Location: Between Whites Bay and Robinhood Bay

Weather Forecast Area: Cook

Investigator: Domonic Venz



REPORT NO.: 04 3492
VESSEL NAME: *PHYSALIE*

Vessel Details:

Ship Name:	<i>Physalie</i>
Date of Build:	1957
Ship Category:	Fishing vessel
Certified Operating Limit:	Coastal
Overall Length (m):	19.46
Maximum Breadth (m):	5.46
Gross Tonnage:	56.68
Flag:	New Zealand
Registered Owner:	Physalie Marine Services Ltd



SUMMARY

On 12 June 2004, the coastal fishing vessel *Physalie* departed Port Nelson bound for fishing grounds near Kapiti Island. They fished there during 13 June, and then left the area at 1900 hours and steamed for the Cloudy Bay area. The Skipper put a deckhand on watch and went to the mess/galley area where he 'dozed' on the bunk. The Skipper took over the watch at about 2400 hours, and continued to head for Cloudy Bay.

At about 0200 hours on 13 June, the vessel reached the general area to be fished, as soon as it was daybreak. The Skipper stopped the vessel and let it drift slowly east, out to sea, while he 'catnapped' on the wheelhouse couch.

At 0500 hours, he started to head the vessel for a waypoint, situated about ½ nautical mile off the shore. He got to within 1 nautical mile of the waypoint and reduced engine revolutions back to idle, and slowed the vessel to about three knots. He then sat down and fell asleep. The vessel subsequently grounded. Within about 30 seconds of grounding, the vessel was reversed clear by the Skipper. No damage was found and the vessel continued with the fishing trip.



Key Events

- 1.1 At 1300 hours, New Zealand Standard Time (NZST) on Saturday 12 June 2004, the fishing vessel ***Physalie*** departed Port Nelson. Onboard was the Skipper and two crew.
- 1.2 The Skipper headed out into greater Tasman Bay and shot the trawl net and had a short tow. After retrieving the net he made passage for French Pass.
- 1.3 At 2020 hours, ***Physalie*** transited French Pass and the Skipper headed towards the Kapiti Island area. As the vessel went past the Chetwode Islands, he handed over the navigational watch to one of the crew. The Skipper then retired below for some rest.
- 1.4 At approximately 0100 hours on Sunday 13 June, the Skipper commenced trawling operations in the general Kapiti Island area. He continued fishing in the same area for most of the day.
- 1.5 At about 1900 hours, the Skipper decided to relocate the vessel to Cloudy Bay in southern Cook Strait. At this time, the Skipper handed over the navigational watch to one of the crew and then went below to the galley/mess area where he watched some television and dozed on the bunk.
- 1.6 At 2400 hours, he took over the watch and continued the steam down to the Cloudy Bay area.
- 1.7 At about 0200 hours on 14 June, the Skipper stopped the vessel approximately 3 nautical miles (nm) south of Rununder Point (*See Appendix I – Excerpt of chart*). The Skipper then lay down on the couch in the wheelhouse while the vessel drifted in a broadly east-southeast direction. He got up and checked the vessel's position and looked for traffic, approximately 3 to 4 times, until 0500 hours.
- 1.8 At 0500 hours, when the vessel was approximately 7 nm off the coast, the Skipper headed due west at a speed of about 5 to 6 knots. The vessel got to within 1 nm of the intended waypoint, where the Skipper intended to shoot the net at daybreak. He then reduced the main engine revolutions to idle, which gave a speed of about 3 knots (*See Appendix I – Waypoint position*).
- 1.9 The Skipper sat down in the navigation chair and fell asleep. The vessel grounded at about 0600 hours (*See Appendix I – Grounding position*). Both crew were woken by the force of the impact and went straight to the wheelhouse. At this time the Skipper was reversing the vessel off the ground and sent the crew to check for damage.
- 1.10 No damage or ingress of water was found and the fishing trip was continued.



Key Conditions

2.1 Vessel Details

2.1.1 *Physalie* is an offshore-restricted trawler of wooden construction, built in 1957 in Marseilles, France. She has an overall length of 19.46 metres, a breadth of 5.46 metres and a gross tonnage of 56.68. A 253 kW General Motors Detroit main engine powers the vessel.

2.1.2 Physalie Marine Services Limited of Nelson owns the vessel.

2.2 Skipper Details

2.2.1 The Skipper/Owner was Dennis Wells of Nelson. He holds an Inshore Fishing Skipper (IFS) Certificate, obtained in 1981, a Skipper Coastal Fishing Boat (SCFB) Certificate and a Mate Deep Sea Fishing Boat (MDSFB) Certificate, obtained in 1982. He also holds a 2nd Class Diesel Trawler Engineers Certificate (2DTE).

2.2.2 He has owned and skippered the vessel since 1986 and was skipper for two years before he purchased the vessel.

2.3 Crew Details

2.3.1 Both crew were unqualified. One was new to the fishing industry and the other had some factory boat experience. The Skipper had not long employed both crew and was not confident yet in their ability to fully relieve him with the watch keeping.



2.4 Safe Ship Management Details

2.4.1 The vessel had a valid Safe Ship Management (SSM) Certificate with Survey Nelson Ltd. The vessel was deemed fit to ply as a fishing vessel in Coastal Restricted limits, within 100nm of the New Zealand Coast, including Stewart and Chatham Islands.

2.4.2 There were no specific fatigue management or watch-keeping procedures documented in the SSM manual.

2.4.3 Survey Nelson is listed in the SSM manual as the Designated Person ashore.

2.5 Navigation Equipment

2.5.1 The vessel was equipped with the following navigational aids:

- Trimble navtrack 100 GPS receiver
- True Chart computer based chart plotter
- Cetrek 930 autopilot
- Koden 3600 radar
- Koden 8811/8832 echo sounders

2.5.2 All of the above electronic equipment was operating satisfactorily at the time. The GPS receiver had a watch keeping alarm function but this was not activated at the time. No other alarms were set on either the radar or chart plotter.

2.5.3 The Skipper was heading for a waypoint on the chart plotter but had not activated a cross track error or waypoint arrival alarm.

2.6 Weather Details

- 2.6.1 The wind at the time was described as 15 to 20 knots from the northwest with a slight sea and a low swell from the south. Visibility was good.

2.7 Trip Details/Human Factors

- 2.7.1 The Skipper had been in port for three days before departure on 12 June. He had slept well, while ashore.
- 2.7.2 While at sea, the Skipper had done the lion's share of the watch keeping while steaming. He had handed over to the crew on two occasions when steaming in open water areas. The Skipper had been on watch for all of the fishing operations.
- 2.7.3 The Skipper had not fully trained the crew and was not confident at this stage to entrust more watch keeping duties to them.
- 2.7.4 Evidence suggests that the Skipper fell asleep for about 15 to 20 minutes before the grounding occurred.
- 2.7.5 Fatigue studies state that although individual rhythms may vary, everybody's cycle has two distinct peaks and dips. The big dip is at night, with the time of the body's lowest alertness, in the hours just before dawn, between 0300 and 0500 hours. During the dips, it can be particularly difficult to maintain alertness. Whenever alertness is affected by fatigue, human performance can be significantly impaired. Alertness cycles closely follow the body temperature cycle, with peak alertness occurring when the body temperature is highest, near midday, and low alertness occurring when the body temperature is lowest, between 0300 and 0500 hours.
- 2.7.6 **Maritime Rule part 31C.15 (2)** states: - 'A seafarer on a fishing vessel, when considering his or her fitness for duty, must take into account:
- (a) the signs, symptoms, and effects of fatigue
 - (b) that fatigue will affect his or her level of alertness
 - (c) that the performance of any person whose alertness is affected by fatigue can be impaired.
- 2.7.7 **Maritime Rule part 31C** contains the following advisory circular.



Performance Impairment	Signs and Symptoms
Impaired attention, loss of concentration, and decision-making power	<ul style="list-style-type: none"> • Overlook or incorrectly order sequential task element • Preoccupation with single tasks or elements • Exhibit lack of awareness or poor performance • Failure to appreciate the gravity of a situation • Failure to anticipate danger • Failure to observe and obey warning signs
Diminished Memory	<ul style="list-style-type: none"> • Overlook a task or elements of a task • Fail to remember the sequence of task or task elements • Inaccurate recall of operational events
Delayed reaction time	<ul style="list-style-type: none"> • RESPOND SLOWLY OR FAIL TO RESPOND ALTOGETHER TO NORMAL, ABNORMAL, OR EMERGENCY STIMULI • Reduced attention span
Diminished problem solving ability	<ul style="list-style-type: none"> • Display poor judgement of distance, speed, and/or time • Inaccurate interpretation of a situation • Display problems with such things as arithmetic and geometry
Mood change	<ul style="list-style-type: none"> • Less conversant than normal • Irritability, tiredness, depression • Distracted by discomfort
Attitude change	<ul style="list-style-type: none"> • Display willingness to take risks • Ignore normal checks and procedures • Display a “don’t care” attitude
Adverse physiological effects	<ul style="list-style-type: none"> • Exhibit speech effects-slur, rate, content • Impaired co-ordination of control skills-key punch entry errors, switch selection
Impaired alertness	<ul style="list-style-type: none"> • Succumb to uncontrollable sleep-nap, long sleep episode • Display automatic behaviour syndrome



Contributing Factors

N.B. These are not listed in order of importance.

- 3.1 Lack of watch keeping training given to the crew.
- 3.2 Not activating the watch-keepers alarm.
- 3.3 Not activating the radar or waypoint arrival alarms.
- 3.4 Not being fully aware of the signs, symptoms and effects of the fatigue.
- 3.5 Not waking up a crewmember when drifting.
- 3.6 Not anchoring the vessel while waiting for daybreak.

CAUSE

Human Factor

<input checked="" type="checkbox"/> Failure to comply with regulations	<input type="checkbox"/> Drugs & Alcohol	<input type="checkbox"/> Overloading
<input type="checkbox"/> Failure to obtain ships position or course	<input checked="" type="checkbox"/> Fatigue	<input type="checkbox"/> Physiological
<input checked="" type="checkbox"/> Improper watchkeeping or lookout	<input type="checkbox"/> Lack of knowledge	<input type="checkbox"/> Ship Handling
<input type="checkbox"/> Misconduct/Negligence	<input type="checkbox"/> Error of judgement	<input type="checkbox"/> Other . . .



Environmental Factor

<input type="checkbox"/> Adverse weather	<input type="checkbox"/> Debris	<input type="checkbox"/> Ice	<input type="checkbox"/> Navigation hazard
<input type="checkbox"/> Adverse current	<input type="checkbox"/> Submerged object	<input type="checkbox"/> Lightning	<input type="checkbox"/> Other . . .

Technical Factor

<input type="checkbox"/> Structural failure	<input type="checkbox"/> Wear & tear	<input type="checkbox"/> Steering failure
<input type="checkbox"/> Mechanical failure	<input type="checkbox"/> Improper welding	<input type="checkbox"/> Inadequate firefighting/lifesaving
<input type="checkbox"/> Electrical failure	<input type="checkbox"/> Inadequate maintenance	<input type="checkbox"/> Insufficient fuel
<input type="checkbox"/> Corrosion	<input type="checkbox"/> Inadequate stability	<input type="checkbox"/> Other . . .

- 4.1 The vessel grounded because the Skipper fell asleep due to being fatigued.

Opinions & Recommendations

5.1 Opinions

- 5.1.1 Due to the economic constraints within the fishing industry, skippers find it hard to keep good crew. Therefore skippers are forced to employ less experienced crew, and for this reason, are reluctant to hand over navigational watches to them.

6.1 Recommendations

- 6.1.1 That the Skipper implement, in conjunction with Survey Nelson, as the SSM provider, and Designated Person ashore, clear and unequivocal procedures for watch keeping/ fatigue management and watch keeping training for the crew. This is to be conducted within 2 months (24th November 2004) of the report being finalised.
- 6.1.2 That the Skipper be censured for his failure to maximise the use of the navigational aids available to ensure the safe operation of the vessel.
- 6.1.3 That where possible the Skipper either anchors the vessel while waiting for daybreak or puts a crewman on watch when drifting in a safe area.
- 6.1.4 That the Skipper always activate the watch-keepers alarm whenever the vessel is not engaged in fishing operations, regardless of who is on watch.
- 6.1.5 That a surveyor from the vessel's SSM company, to whom a copy of this report be sent, conduct an audit immediately after the expiry of the two month period referred to in paragraph 6.1.1 above to ensure the company has complied with the recommendations on fatigue management and watch keeping training.



Appendix I

