



Australian Government
Australian Transport Safety Bureau

Fall from the pilot ladder on the bulk carrier *Atlantic Princess*

Whyalla, South Australia | 3 July 2013



Investigation

ATSB Transport Safety Report
Marine Occurrence Investigation
300-MO-2013-007
Final – 9 May 2014

Cover photo: ATSB

Released in accordance with section 25 of the *Transport Safety Investigation Act 2003*

Publishing information

Published by: Australian Transport Safety Bureau
Postal address: PO Box 967, Civic Square ACT 2608
Office: 62 Northbourne Avenue Canberra, Australian Capital Territory 2601
Telephone: 1800 020 616, from overseas +61 2 6257 4150 (24 hours)
Accident and incident notification: 1800 011 034 (24 hours)
Facsimile: 02 6247 3117, from overseas +61 2 6247 3117
Email: atsbinfo@atsb.gov.au
Internet: www.atsb.gov.au

© Commonwealth of Australia 2014



Ownership of intellectual property rights in this publication

Unless otherwise noted, copyright (and any other intellectual property rights, if any) in this publication is owned by the Commonwealth of Australia.

Creative Commons licence

With the exception of the Coat of Arms, ATSB logo, and photos and graphics in which a third party holds copyright, this publication is licensed under a Creative Commons Attribution 3.0 Australia licence.

Creative Commons Attribution 3.0 Australia Licence is a standard form license agreement that allows you to copy, distribute, transmit and adapt this publication provided that you attribute the work.

The ATSB's preference is that you attribute this publication (and any material sourced from it) using the following wording: *Source:* Australian Transport Safety Bureau

Copyright in material obtained from other agencies, private individuals or organisations, belongs to those agencies, individuals or organisations. Where you want to use their material you will need to contact them directly.

Addendum

Page	Change	Date

Safety summary

What happened

On 3 July 2013, a company representative was boarding the bulk carrier *Atlantic Princess* via the ship's pilot ladder when he fell and landed on the deck of the pilot launch below. At the time, the ship was at anchor off Whyalla, South Australia, loading iron ore from an offshore transshipment barge.

The injured man was provided with immediate first aid and transported to the local hospital. However, he died later that day as a result of his injuries.

What the ATSB found

The ATSB found that while *Atlantic Princess's* pilot ladder had been rigged in accordance with the relevant international requirements, no further risk assessment was carried out for the personnel transfer. The investigation also found that the company's safety management system provided no guidance relating to actions that should be taken when less experienced personnel were to use a pilot ladder to board or disembark the ship.

In addition, there were no facilities on board the transshipment barge that could be used to provide a safe means of access between the barge and the ship for personnel transfers with the barge operator's procedures prohibiting such transfers.

The investigation also identified safety issues relating to the content and implementation of the pilot launch operator's safety management system.

What's been done as a result

The ship's managers have issued a fleet safety circular noting that helicopters should be used for transfers of persons other than pilots wherever possible. When this is not possible, they are required to use a safety harness while climbing a pilot ladder. These requirements are to be advised to the ship's agent in advance.

The pilot launch operator's safety management system has been audited and the company is working to improve the system and its implementation. The company's personnel transfer procedures have also been updated.

Safety message

This accident highlights the fact that while pilots may be competent in the use of pilot ladders, it should not be assumed that other personnel are proficient in climbing or descending a pilot ladder, or fit to do so.

Contents

The occurrence	1
Context	5
Port of Whyalla	5
Iron ore transshipment operations	5
<i>Atlantic Princess</i>	5
<i>Switcher</i>	6
The fall	7
Safety analysis	8
Safe means of access	8
Shipboard procedures	9
Launch procedures	9
Findings	12
Contributing factors	12
Other factors that increase risk	12
Safety issues and actions	13
Risk assessment	13
Safe means of access	14
Safety management system compliance	14
Safety management system guidance	15
General details	16
Occurrence details	16
<i>Atlantic Princess</i> details	16
Sources and submissions	17
Sources of information	17
References	17
Submissions	17
Australian Transport Safety Bureau	18
Purpose of safety investigations	18
Developing safety action	18

The occurrence

On 17 June 2013, the cape-size¹ bulk carrier *Atlantic Princess* (Figure 1) arrived in the Spencer Gulf, South Australia, to load a cargo of iron ore at an offshore transshipment anchorage near Whyalla.

Figure 1: *Atlantic Princess*



Source: South Australia Police

Since other bulk carriers were occupying the transshipment point anchorages, *Atlantic Princess's* master was told to anchor in the designated waiting anchorage (Figure 2) until a transshipment point became available.

On 27 June, *Atlantic Princess* was moved to an anchorage at transshipment point two (TP 2) and the master was instructed to standby prepared to load cargo.

On 28 June, a cargo surveyor boarded *Atlantic Princess* via the ship's port side combination ladder.² He completed a draught survey and, before departing the ship, detailed the cargo plan for the coming weeks.

On 1 July, a new master and a gyro compass technician were transferred from the Whyalla Marina to *Atlantic Princess* on board the launch *Switcher*. They boarded the ship via the port side combination ladder, which had remained rigged since the ship's arrival at the transshipment point.

On 2 July, the Floating Offshore Transfer Barge (FOTB) *Spencer Gulf* and a cargo supply barge were secured alongside *Atlantic Princess's* starboard side. Preparations for cargo loading were completed and loading commenced later that evening.

At 0725³ on 3 July, cargo loading was temporarily suspended on the completion of the cargo transfer from the first supply barge.

At 0845, the departing master disembarked *Atlantic Princess* via the ship's port side combination ladder onto the deck of *Switcher*. He was then taken to the Whyalla Marina. The wind at that time was west-southwest at force⁴ 4 (11 to 16 knots⁵).

¹ Dimensions larger than that allowable for transit of the Panama Canal.

² A vertical rope pilot ladder and a ship's gangway ladder in combination. Combination ladders are required when the vertical climb up a pilot ladder exceeds 9 m.

³ All times referred to in this report are local time, Coordinated Universal Time (UTC) + 8.5 hours.

⁴ The Beaufort scale of wind force, developed in 1805 by Admiral Sir Francis Beaufort, enables sailors to estimate wind speeds through visual observations of sea states.

⁵ One knot, or one nautical mile per hour equals 1.852 kilometres per hour.

Figure 3: The port side combination ladder arrangement



Source: South Australia Police with annotations by ATSB

The deckhand saw that the bottom of the pilot ladder was about two rungs above the deck of the launch, which he felt was too high to climb. He gestured to the crew at the top of the pilot ladder, about 17 m above him, to lower the ladder. At about this time, the two purchaser's representatives moved from inside the cabin to the foredeck.

Atlantic Princess's boatswain (bosun), who was supervising the crew on the deck of the ship, acknowledged the deckhand's gesture. He then instructed the crew to slacken the securing arrangements and lower the ladder.

While the ship's crew were adjusting the height of the ladder, the purchaser's master approached the bottom of the ladder. He had a short discussion with the deckhand and then began to climb the ladder. His ascent was not communicated to the crew on board *Atlantic Princess*, who were still preparing to lower the ladder.

The purchaser's master was wearing a personal flotation device and was not carrying any baggage. He climbed slowly and steadily, one ladder rung at a time, holding on with both hands. As he moved up the ladder, he was sighted by the bosun who immediately instructed the crew to secure the ladder. The ladder appeared to be stable and was not seen to move at any time while the purchaser's master was climbing it.

When the purchaser's master had climbed about 7 m up the ladder, with his head almost in line with the accommodation ladder platform (Figure 3), he stopped. He began gesturing with his right arm and then grasped the ladder with both hands. He remained in that position for about 4 to 5

seconds and pulled himself towards the ladder. While doing so, he called out to the crew on the deck of the ship, asking for help.

The ordinary seaman, who was standing-by at the top of the pilot ladder, heard the call for help and ran to the top of the gangway ladder. He was about to make his way down the gangway when, at 1050, he saw the purchaser's master fall from the pilot ladder and land in the centre of *Switcher's* foredeck.

The engineering superintendent and the deckhand immediately attended to the purchaser's master. The ACBPS officer, who was trained in trauma care, then joined them and began to assess his condition. He had lost consciousness for about 10 to 15 seconds, had a fracture of the right forearm and blood on his right cheek.

Switcher's skipper tried to call *Atlantic Princess's* local agent and the transshipment operations manager by mobile telephone. However, he had limited mobile telephone coverage and could not get through to them. After a few minutes of trying, he managed to telephone *Switcher's* owner, informing him of the accident and requesting medical assistance. He was told to return to the Whyalla Marina and that the owner would call triple zero, '000', the emergency services telephone number, and request that an ambulance meet the launch at the marina.

At 1053, *Switcher* departed from *Atlantic Princess*. During the transit back to the marina, the purchaser's master was placed in the recovery position, his head was supported by a cushion and he was covered by a shirt for warmth. While he exhibited signs of pain and had difficulty breathing, he was coherent.

At 1120, *Switcher* arrived at the Whyalla Marina, where an ambulance and a fire and rescue unit were standing by. The paramedics stabilised the purchaser's master and he was transferred to the ambulance.

At about 1140, the ambulance departed from the marina. The purchaser's master was admitted to the local hospital and was provided with medical treatment, but died later that day as a result of his injuries.

Context

Port of Whyalla

The Port of Whyalla (33° 02'S 137° 36'E) is located on the western shore of Spencer Gulf.

The port's inner harbour comprises two berths, known locally as the Bulk Berth and the Products Berth. These berths are used for the loading and unloading of bulk commodities and steel products. The Ore Jetty, which is used exclusively for the loading of bulk iron ore products, is located in the outer harbour.

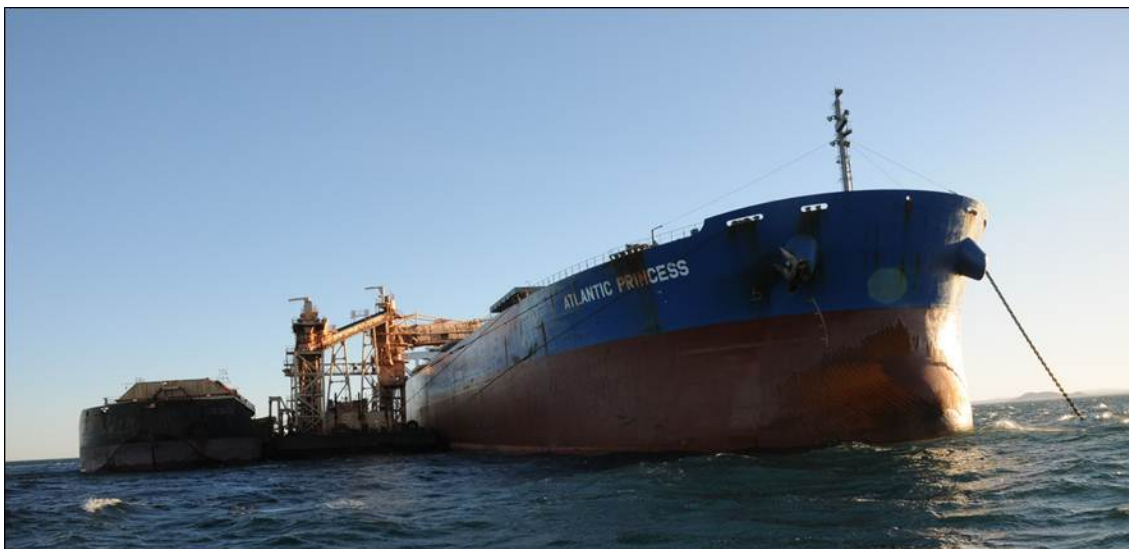
The port is owned and operated by OneSteel Manufacturing, through an indenture agreement with the South Australia Government.

Iron ore transshipment operations

Whyalla is the base for CSL Australia's transshipment of Arrium Mining iron ore to cape-size export ships which are anchored in the Spencer Gulf, about 8 miles⁶ off the port.

At the beginning of each transshipment, the Floating Offshore Transfer Barge (FOTB) *Spencer Gulf* is towed into position by tugs and secured to the ship to be loaded (Figure 4). Self-Unloading Barges (SUB) are then loaded with iron ore at the Ore Jetty and shuttled back and forth between the jetty and the FOTB by tugs.

Figure 4: A SUB and *Spencer Gulf* secured alongside *Atlantic Princess*



Source: South Australia Police

The SUBs self-discharge onto the FOTB, which then transfers the ore into the ship's cargo holds. A typical cape-size ship transshipment consists of about 15 barge loads of ore. On average, three cape-size transshipments are completed per month.

Atlantic Princess

At the time of the accident, *Atlantic Princess* was registered in Panama, classed with Nippon Kaiji Kyokai (ClassNK) and managed by Santoku Senpaku, Japan.

⁶ A nautical mile of 1852 m.

The crew

The ship had a crew of 20 Filipino nationals, all of whom held Philippines-issued qualifications appropriate for the positions they held on board the ship.

The master had 42 years of seagoing experience, of which the last 14 years had been in command. He had been on board *Atlantic Princess* for about 2 days.

The bosun had 16 years of seagoing experience on board bulk carriers and had served in the position of bosun for about 2 years. He had been on board *Atlantic Princess* for about 3 months.

The purchaser’s master had about 30 years of seagoing experience and held a master class one certificate of competency that had been issued in Greece. He had many years of experience as a ship’s master and was joining *Atlantic Princess* as a representative of Charterworld Maritime, a company that was in the process of purchasing the ship.

Pilot ladder arrangement

On 3 July 2013, *Atlantic Princess*’s combination pilot ladder was rigged in accordance with the requirements of SOLAS⁷ Chapter V Regulation 23 (*Pilot transfer arrangements*) and the recommendations contained in the similarly titled International Maritime Organization (IMO) Resolution A.1045(27).

Switcher

Switcher was an 11.5 m twin hull launch that was constructed from aluminium and composite materials (Figure 5). At the time of the accident, it was the sole vessel owned and operated by Whyalla Launch Services, a company involved in the provision of maritime delivery services and pilot/crew transfers.

Figure 5: Switcher



Source: ATSB

Switcher’s skipper held a coxswain’s certificate, a radio operator certificate and had undergone first aid training. He began working in the maritime industry about 4 years before the accident and had about 2 years of experience as a skipper with Whyalla Launch Services.

The deckhand held no formal maritime qualifications and had been working as a deckhand with Whyalla Launch Services for about 1 month. It was a requirement for the deckhand to hold a valid

⁷ The International Convention for the Safety of Life at Sea, 1974, as amended.

first aid certificate. However, at the time of the accident, the deckhand did not hold any first aid qualifications.

Emergency communications

Whyalla Launch Services safety management system (SMS) contained procedures that outlined the actions that should be taken in case of an emergency on board *Switcher*. According to these procedures, the skipper was required to notify the company, the transshipment operations manager, the ship's agent and the nearest port authority in the case of an on board personal injury or medical emergency. The procedures also included a list of emergency contact telephone numbers.

On 3 July 2013, the skipper followed this process. He had limited mobile telephone coverage and could not get through to the ship's agent or the transshipment operations manager. However, after a few minutes of trying, he managed to telephone *Switcher's* owner, informing him of the accident and requesting medical assistance.

While *Switcher* was fitted with a very high frequency (VHF) radio, it was not used by the skipper to raise the alarm because the Port of Whyalla did not operate a permanently manned radio station at the time of the accident.

The fall

A post mortem examination of the purchaser's master indicated that he died as a result of internal chest and pelvic injuries. The examination identified no underlying medical conditions that may have contributed to the fall.

The evidence provided by the various witnesses was not entirely consistent and hence could not be relied upon to determine why the purchaser's master fell. However, the fact that he called to the deck of the ship indicates that he was having difficulty climbing the pilot ladder.

It is possible that the exertion required to climb 7 m up the vertical ladder exhausted him to the point that he could no longer maintain his grip.

Safety analysis

Safe means of access

According to Marine Order 21,⁸ the master of a ship in port must ensure that the means of access to the ship provided for persons boarding or disembarking from the ship (such as a gangway or accommodation ladder) is safe and complies with the requirements of Regulation 3-9 of Chapter II-1 of SOLAS and IMO Circular MSC.1/Circ.1331. These documents outline the requirements for the construction, installation and maintenance of accommodation ladders and gangways.

When berthed in a conventional port, this safe means of access is usually provided by the ship's accommodation ladder or gangway, which is appropriately rigged with a safety net and landed on the wharf or loading facility. In some instances, the port provides a permanent structure that meets these requirements and is used to provide safe access to and from berthed ships.

Marine Order 21 does not define the word 'port'. However, since Marine Orders are subordinate legislation to the *Navigation Act 2012*, the act's definitions apply. The *Navigation Act 2012*, states that a port includes a harbour and defines a harbour as:

a natural or artificial harbour, and includes:

- (a) a navigable estuary, river, creek or channel; or
- (b) a haven, roadstead, dock, pier, jetty or offshore terminal; or
- (c) any other place in or at which vessels can obtain shelter or load and unload goods or embark and disembark passengers.

Atlantic Princess was tied up alongside the Floating Offshore Transfer Barge (FOTB) *Spencer Gulf* (Figure 4) at a place loading cargo. Therefore, according to the *Navigation Act 2012* and Marine Order 21, the ship was in a port. Therefore, the master was required to provide a safe means of access.

Marine Order 21 goes on to say that 'if the master of a vessel at anchor or at a mooring considers that the use of an accommodation ladder is impracticable, he or she... may provide a pilot ladder as a means of access to or from the vessel'.

At the time of the accident, there was no permanent structure on board the FOTB that was used to provide safe access for personnel boarding and disembarking a ship, like *Atlantic Princess*, that was in the process of loading cargo. Furthermore, the barge operator's written advice to *Atlantic Princess's* master stated that:

The Transshipment Manager will dictate safe weather/sea conditions for crew transfer for all vessels inside the exclusion zone. The FOTB *Spencer Gulf* will **NOT** be used as a transfer platform for non CSL employees and will also reserve the right to refuse entry of any vessel without the express permission of the transshipment manager...

Since there was no other form of safe access to *Atlantic Princess* while the ship was at anchor and loading cargo at the transshipment point, the master decided to use the ship's port side combination ladder for personnel transfers.

The need to transfer personnel on ship's business is a highly predictable occurrence when a ship is involved in a cargo transshipment. Government officers, including those from the Australian Customs and Border Protection Service, the Department of Agriculture, Fisheries and Forestry

⁸ Marine Orders are a form of delegated legislation under Australia's Commonwealth laws. Marine Orders are regularly amended in response to changes in international law, industry requirements and technological developments. They provide an efficient means of implementing Australia's international maritime obligations by giving effect to international conventions in Australian law.

(DAFF) and the Australian Maritime Safety Authority (AMSA), and others including surveyors and ship's agents will routinely transfer to and from the loading ship on multiple occasions. Therefore, it is important that there is a permanent arrangement in place that allows for their safe access to and from a ship during transshipment cargo operations in accordance with the requirements of Marine Order 21.

Shipboard procedures

Atlantic Princess's safety management system (SMS) contained procedures relating to pilot transfers and the appropriate use of pilot ladders and combination ladders. This information referenced the requirements of the IMO⁹ and the guidance provided by the International Marine Pilots Association (IMPA) (Figure 6).

This guidance material defined the standards required for the transfer of a pilot, a person who is trained and experienced in the use of pilot ladders. It provided no details of any further precautions that should be taken, or considered, when transferring persons less experienced at climbing and descending pilot ladders or those that are possibly not physically capable of doing so without assistance.

With reference to the use of pilot ladders for the transfer of persons other than pilots, the International Marine Contractors Association (IMCA) states that:

Pilot ladders, for use by pilots boarding or leaving a vessel, are purpose-made ladders fitted with wide spread rungs at a particular spacing and rigged together with manropes. Pilots are competent with their use and it should not be assumed that other personnel would be proficient in climbing or descending a pilot ladder, or fit to do so.

Since it should not be assumed that all personnel would be proficient in climbing or descending a pilot ladder, it is reasonable to consider that when pilot ladder arrangements are used for the transfer of persons who are not so proficient in the use of pilot ladders, a suitable risk analysis should be carried out.

On 3 July, *Atlantic Princess's* master decided that the ship's port side combination ladder would be used for the personnel transfer. While the ship's SMS procedures were complied with, no further risk mitigating strategies were considered or implemented.

Prior to the boarding of the ATSB investigators on 5 July, the combination ladder had been moved from the port side to the starboard side and a risk analysis was carried out in relation to the upcoming transfer. As a result, the investigators were transferred from the transshipment barge (a larger and more stable platform than the launch) and they were required to wear a safety harness that was attached to a safety line and descent unit.¹⁰

Had a similar risk analysis been carried out on 3 July, it is possible that the fall, or at least the negative results of it, would have been avoided.

Launch procedures

Whyalla Launch Services had implemented a SMS on board *Switcher* in accordance with the requirements of the National Standard for Commercial Vessels (NSCV). The SMS contained procedures specific to pilot transfer arrangements. However, the procedures referenced superseded SOLAS regulations and IMO resolutions. Furthermore, there was no readily available information, like the IMPA diagram (Figure 6), on board *Switcher* to provide the launch crew with guidance to assist them with determining whether a pilot ladder was rigged correctly.

⁹ IMO Resolution A.1045(27)

¹⁰ A descent unit acts to lower the endangered person at a controlled rate.


This lack of guidance and the referencing of superseded documents provided the launch crew with limited assistance and out of date information, but is not considered to have contributed to the accident.

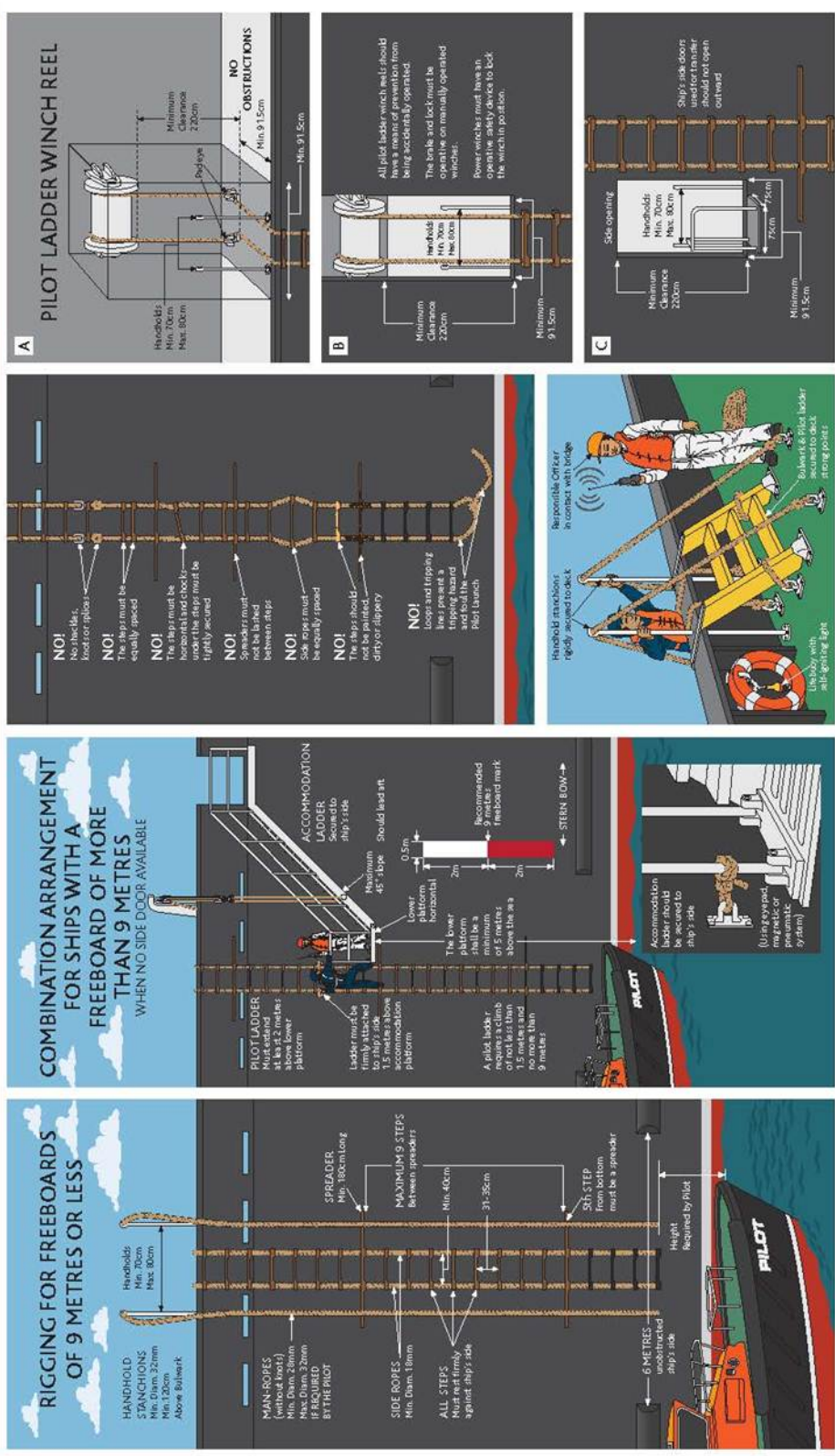
Figure 6: IMPA required boarding arrangements for pilots

REQUIRED BOARDING ARRANGEMENTS FOR PILOT

In accordance with SOLAS Regulation V/23 & IMO Resolution A.1045(27)
INTERNATIONAL MARITIME PILOTS' ASSOCIATION

H.Q.S. "Wellington" Temple Stairs, Victoria Embankment, London WC2R 2PN Tel: +44 (0)20 7240 3973 Fax: +44 (0)20 7210 3518 Email: office@impahq.org
This document and all IMO Pilot-related documents are available for download at: <http://www.impahq.org>





PILOT LADDER WINCH REEL

Handholds: Min. 70cm, Max. 80cm

Minimum Clearance: 220cm

NO OBSTRUCTIONS

Min. 91.5cm

PILOT LADDER

Handholds: Min. 70cm, Max. 80cm

Minimum Clearance: 220cm

Min. 91.5cm

Side opening

Handholds: Min. 70cm, Max. 80cm

Minimum Clearance: 220cm

Min. 91.5cm

Ship's side door should not open outwards

COMBINATION ARRANGEMENT FOR SHIPS WITH A FREEBOARD OF MORE THAN 9 METRES

WHEN NO SIDE DOOR AVAILABLE

ACCOMMODATION LADDER, Scaled to ship's side

Should level sit

0.5m

2m

2m

Recommended freeboard mark

STERN BLOW

PILOT LADDER

Must extend to the top of the accommodation platform

Ladder must be firmly lashed to the accommodation platform

1.5 metres above accommodation platform

A pilot ladder requires a climb of 1.2 metres and no more than 9 metres

Minimum of 5 metres above the water

Accommodation ladder boards to be secured to ship's side

Using keypad, magnetic or pneumatic system

Use only with self-igniting light

Responsible Officer in contact with Vessel

Handhold attachments rigidly secured to deck

Subside Pilot ladder at strong point

RIGGING FOR FREEBOARDS OF 9 METRES OR LESS

Handhold Stanchions: Min. Diam. 32mm, Min. 1.20cm Above Bulwark

Handholds: Min. 70cm, Max. 80cm

MAN-ROPE (without knots): Min. Diam. 18mm, Max. Diam. 32mm IF REQUIRED BY THE PILOT

SPREADER: Min. 180cm long

MAXIMUM 9 STEPS Between spreaders

Side Ropes: Min. Diam. 18mm

ALL STEPS Must not firmly against ship's side

31-35cm

5th STEP from bottom must be a spreader

6 METRES unobstructed ship's side

Height Required by Pilot

Source: International Marine Pilots Association

Passenger transfer procedures

The SMS procedures stated that the decision as to whether to put the launch alongside a ship was the responsibility of the skipper and that the decision not to board the ship could be made by the skipper, the deckhand or the passenger. However, the procedures provided no guidance in relation to how the launch crew should determine the ability of a passenger to make such an informed decision.

Since each passenger's fitness and expertise in climbing or descending a pilot ladder differs, and is not necessarily aligned with their broader maritime industry experience, it would be prudent for the launch operator to have a process through which they can identify the individual's level of fitness and pilot ladder expertise. This would then enable the launch crew to provide a more detailed briefing when required and to know when to take a more active role in the decision making processes.

The procedures also provided no guidance in relation to the positioning of the launch when the transferring passenger was safely transferred to the pilot ladder. In this instance, *Switcher* remained alongside the ship. Consequently, when the purchaser's master fell from the ladder, he landed on the foredeck of the launch.

When carrying out a static passenger transfer (one where the ship is not under way) the launch can be safely backed away from the ship when the passenger has transferred to the pilot ladder. Thus, if the passenger falls from the ladder, they fall into the sea and are then supported by their lifejacket. The passenger can be subsequently lifted on board the launch.

Had *Switcher* been backed away from the bottom of the ladder on this occasion, the purchaser's master would have fallen into the sea and probably been less seriously injured.

Compliance with procedures

The SMS covered the key operational aspects of the vessel. However, on 3 July, a number of these procedures were not complied with. For example:

- The procedures stated that the deckhand should be trained in first aid techniques. The deckhand on duty on 3 July was not.
- The procedures stated that when an adjustment to the height of a ladder was required, the request should be communicated to the bridge of the ship by the skipper and that the passengers and deckhand should be recalled to the protection of *Switcher's* cabin while the adjustments were made. On 3 July, the deckhand passed this message directly to the crew on the deck of the ship and he and two passengers remained on the foredeck of the launch.
- The procedures stated that the passengers should step from the launch to the ladder as instructed at their familiarisation briefing and following the orders of the deckhand. On 3 July, the purchaser's master climbed onto the ladder before the adjustment of its height had been completed and before the deckhand was ready for the transfer.

This is a small sample of non-compliances related to a single event and hence is not a thorough audit of the entire SMS. However, it indicates that further work may be required on the part of Whyalla Launch Services to ensure that effective compliance with the SMS is attained.

In submission, Whyalla Launch Services stated that the purchaser's master embarked the pilot ladder because of his eagerness to board the vessel and a minor language barrier, not as a result of a failure of the SMS. While this may have been the case, it was the responsibility of the launch crew to ensure that the transfer was carried out safely and in accordance with the company's procedures.

Findings

On 3 July 2013, a company representative was boarding the bulk carrier *Atlantic Princess* via the ship's pilot ladder when he fell and landed on the deck of the pilot launch below. At the time, the ship was at anchor off Whyalla, South Australia, loading iron ore from an offshore transshipment barge. The injured man was provided with immediate first aid and transported to the local hospital. However, he died later that day as a result of his injuries.

The following findings are made with respect to the accident. These findings should not be read as apportioning blame or liability to any particular organisation or individual.

Safety issues, or system problems, are highlighted in bold to emphasise their importance.

A safety issue is an event or condition that increases safety risk and (a) can reasonably be regarded as having the potential to adversely affect the safety of future operations, and (b) is a characteristic of an organisation or a system, rather than a characteristic of a specific individual, or characteristic of an operating environment at a specific point in time..

Contributing factors

- *Atlantic Princess's* combination pilot ladder was rigged in accordance with the relevant SOLAS regulations and IMO resolutions. However, no further risk assessment was carried out by the ship's crew for the personnel transfer.
- ***Atlantic Princess's* safety management system provided no guidance relating to actions that should be taken when persons less experienced than a pilot used a pilot ladder to board or disembark the ship. [Safety issue]**

Other factors that increase risk

- The requirements of Whyalla Launch Services' safety management system were not fully complied with. The deckhand was not trained in first aid techniques, the passengers and the deckhand were not brought back to the cabin of the launch while the height of the ladder was being adjusted and the purchaser's master climbed onto the ladder before the deckhand was ready for the transfer.
- **The examples of non-compliance with the requirements of Whyalla Launch Services' safety management system indicate that the system was not fully and effectively implemented on board *Switcher*. [Safety issue]**
- **Whyalla Launch Services' safety management system did not provide effective guidance in relation to assessing a passenger's ability to climb a pilot ladder or positioning of pilot launches while passengers were climbing and descending ladders. The system also referenced superseded SOLAS regulations and IMO resolutions relating to pilot ladders. [Safety issue]**
- **There were no facilities on board the Floating Offshore Transfer Barge *Spencer Gulf* that could be used to provide a safe means of access for personnel transfers between the barge and the ship. Furthermore, the barge operator's procedures prohibited such personnel transfers. [Safety issue]**

Safety issues and actions

The safety issues identified during this investigation are listed in the Findings and Safety issues and actions sections of this report. The Australian Transport Safety Bureau (ATSB) expects that all safety issues identified by the investigation should be addressed by the relevant organisations. In addressing those issues, the ATSB prefers to encourage relevant organisations to proactively initiate safety action, rather than to issue formal safety recommendations or safety advisory notices.

All of the directly involved parties were provided with a draft report and invited to provide submissions. As part of that process, each organisation was asked to communicate what safety actions, if any, they had carried out or were planning to carry out in relation to each safety issue relevant to their organisation.

Risk assessment

Number:	MO-2013-007-SI-01
Issue owner:	Santoku Senpaku
Type of operation:	Marine – Shipboard operations
Who it affects:	All masters owners and operators of ships

Safety issue description:

Atlantic Princess's safety management system provided no guidance relating to actions that should be taken when persons less experienced than a pilot used a pilot ladder to board or disembark the ship.

Response to safety issue by: Santoku Senpaku

Santoku Senpaku has issued a fleet circular advising the following;

Target Person: Visitors except for Pilots, Authorities & Agents, but including all people inexperienced in the use of a pilot ladder.

Situation: At the time when above mentioned visitors embarking the vessels at anchorage.

1. Master requests agents and visitors to use a helicopter for embarkation.
2. If the helicopter is not available or suitable, the visitors are allowed to come by a boat, however, they are required to use vessels' harness while climbing a pilot ladder for safety purpose and the vessel inform the visitors of this requirement in advance through local agent.
3. Master instruct crew to stand-by to help the visitors including pilots, authorities and agents while their climbing the pilot ladder.

ATSB comment in response:

The ATSB considers that the actions taken and proposed by Santoku Senpaku should address this safety issue.

Current status of the safety issue:

Issue status: Adequately addressed

Safe means of access

Number:	MO-2013-007-SI-02
Issue owner:	CSL Australia
Type of operation:	Marine – Shipboard operations
Who it affects:	Owners and operators of ports and offshore loading facilities

Safety issue description:

There were no facilities on board the Floating Offshore Transfer Barge *Spencer Gulf* that could be used to provide a safe means of access for personnel transfers between the barge and the ship. Furthermore, the barge operator’s procedures prohibited such personnel transfers.

Response to safety issue by: CSL Australia

CSL Australia had advised that;

As there is no operational reason for personnel to transfer from the FOTB [Floating Offshore Transfer Barge] to any vessel and the fact that the owners and operators of the FOTB *Spencer Gulf* would be exposing themselves to unacceptable risks, the policy adopted by them, that the FOTB *Spencer Gulf* will not be used as a transfer platform for non CSL employees and reserves the right to refuse entry of any vessel without the express permission of the Transshipment Manager, is both prudent and reasonable.

ATSB comment in response:

While the ATSB acknowledges CSL Australia’s wish to limit its legal liability, the company should take action to address this safety issue by assisting masters in providing a safe means of access between their ship and the Floating Offshore Transfer Barge *Spencer Gulf* in accordance with the requirements of Marine Order 21.

ATSB safety recommendation to: CSL Australia

Action number: MO-2013-007-SR-009

Action status: Released

The ATSB recommends that CSL Australia should take action to ensure that masters can provide a safe means of access between their ships and the Floating Offshore Transfer Barge *Spencer Gulf* in accordance with the requirements of Marine Order 21.

Current status of the safety issue:

Issue status: Not addressed

Justification: No action taken

Safety management system compliance

Number:	MO-2013-007-SI-03
Issue owner:	Whyalla Launch Services
Type of operation:	Marine – Shipboard operations
Who it affects:	All masters, owners and operators of ships and small vessels

Safety issue description:

The examples of non-compliance with the requirements of Whyalla Launch Services’ safety management system indicate that the system was not fully and effectively implemented on board *Switcher*.

Response to safety issue by: Whyalla Launch Services

Whyalla Launch Services has advised that the company’s safety management system is being updated as a result of the findings of this incident and an audit that was carried out in December 2013. Actions are also being taken to ensure that the system is effectively implemented on board *Switcher*.

ATSB comment in response:

The ATSB considers that the actions taken by Whyalla Launch Services should address this safety issue.

Current status of the safety issue:

Issue status: Adequately addressed

Safety management system guidance

Number:	MO-2013-007-SI-05
Issue owner:	Whyalla Launch Services
Type of operation:	Marine – Shipboard operations
Who it affects:	All masters owners and operators of ships and small vessels

Safety issue description:

Whyalla Launch Services’ safety management system did not provide effective guidance in relation to assessing a passenger’s ability to climb a pilot ladder or positioning of pilot launches while passengers were climbing and descending ladders. The system also referenced superseded SOLAS regulations and IMO resolutions relating to pilot ladders.

Response to safety issue by: Whyalla Launch Services

Whyalla Launch Services has advised that the company’s safety management system has been updated as a result of the findings of this incident and an audit that was carried out in December 2013. Changes to the system include;

- A copy of the IMPA pilot ladder arrangement diagram has been placed in a prominent place in *Switcher*’s wheelhouse.
- The procedures now include a requirement for *Switcher* to be moved either ahead or astern once each person is on the pilot ladder so that the area is clear in the event of a fall. A man overboard recovery system will also be deployed in readiness for recovery from the sea if necessary.
- The procedures now require all persons to remain in the wheelhouse of the launch until the deckhand is ready for the impending transfer. The skipper then allows one passenger at a time to go on deck for their boarding.
- References to the most up-to-date SOLAS regulations and IMO resolutions have been included.

ATSB comment in response:

The ATSB considers that the actions taken by Whyalla Launch Services should address this safety issue.

Current status of the safety issue:

Issue status: Adequately addressed

General details

Occurrence details

Date and time:	3 July 2013 – 1050 UTC+9.5	
Occurrence category:	Serious incident	
Primary occurrence type:	Fatality	
Location:	Transshipment Anchorage 1, Whyalla, South Australia	
	Latitude: 33° 03.83'S	Longitude: 137° 41.18'E

Atlantic Princess details

Name	<i>Atlantic Princess</i>
IMO number	9296200
Call sign	HPND
Flag	Panama
Classification society	Nippon Kaiji Kyokai
Ship type	Dry Bulk (ore) carrier
Builder	Imabari Shipbuilding Co Ltd Japan
Year built	2003
Owner(s)	Lucretia Shipping
Manager	Santoku Senpaku
Gross tonnage	90,091
Deadweight (summer)	180,202 tonnes
Summer draught	18.170 m
Length overall	288.930 m
Moulded breadth	45.5 m
Moulded depth	24.7 m
Main engine(s)	MAN B&W 6S70MC-C
Total power	18,629 kW
Speed	14.5 knots
Damage:	Nil

Sources and submissions

Sources of information

On 5 July 2013, investigators from the Australian Transport Safety Bureau (ATSB) attended *Atlantic Princess* while the ship was at anchor off Whyalla, South Australia. The master and directly involved crew members were interviewed. Photographs of the ship and copies of relevant documents and records were also obtained.

Over the following days, the investigators interviewed *Switcher's* skipper and deckhand. Photographs of the vessel and copies of relevant documents and records were also obtained. All of the passengers who were on board *Switcher* at the time of the accident were also interviewed.

During the course of the investigation, further information was provided by Arrium Mining, Whyalla Launch Services, CSL Australia, South Australia Police, Worksafe South Australia, the South Australia Department of Planning Transport and Infrastructure, Flinders Ports, Gulf Agency Company (Australia), Wilhelmsen Ship Services, Charterworld Maritime and Orophil Shipping International.

References

- The International Convention for the Safety of Life at Sea, 1974, as amended.
- *Navigation Act, 2012*
- Marine Order 21
- International Maritime Organization (IMO) *Circular MSC. 1/Circ. 1331*
- International Maritime Organization (IMO) *Resolution A. 1045(27)*
- International Marine Pilots Association (IMPA) *Pilot Ladder Poster*
- International Marine Contractors Association (IMCA) *Guidance on the Transfer of Personnel to and from Offshore Vessels*

Submissions

Under Part 4, Division 2 (Investigation Reports), Section 26 of the *Transport Safety Investigation Act 2003*, the ATSB may provide a draft report, on a confidential basis, to any person whom the ATSB considers appropriate. Section 26 (1) (a) of the Act allows a person receiving a draft report to make submissions to the ATSB about the draft report.

A draft of this report was provided to *Atlantic Princess's* master, third mate, bosun and ordinary seaman, Santoku Senpaku, *Switcher's* skipper and deckhand, Whyalla Launch Services, CSL Australia, Charterworld Maritime, Worksafe SA, South Australia Coroner's Office, the Department of Planning, Transport and Infrastructure, the Department of Agriculture Fisheries and Forestry, the Australian Customs and Border Protection Service, the Australian Maritime Safety Authority, the Panama Maritime Authority and the Hellenic Ministry of Mercantile Marine.

Submissions were received from *Atlantic Princess's* master, third mate, bosun and ordinary seaman, Santoku Senpaku, *Switcher's* skipper and deckhand, Whyalla Launch Services, CSL Australia, the Department of Planning, Transport and Infrastructure, the Department of Agriculture Fisheries and Forestry, the Australian Maritime Safety Authority and the Panama Maritime Authority. The submissions were reviewed and where considered appropriate, the text of the report was amended accordingly.

Australian Transport Safety Bureau

The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory agency. The ATSB is governed by a Commission and is entirely separate from transport regulators, policy makers and service providers. The ATSB's function is to improve safety and public confidence in the aviation, marine and rail modes of transport through excellence in: independent investigation of transport accidents and other safety occurrences; safety data recording, analysis and research; fostering safety awareness, knowledge and action.

The ATSB is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia that fall within Commonwealth jurisdiction, as well as participating in overseas investigations involving Australian registered aircraft and ships. A primary concern is the safety of commercial transport, with particular regard to fare-paying passenger operations.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and Regulations and, where applicable, relevant international agreements.

Purpose of safety investigations

The object of a safety investigation is to identify and reduce safety-related risk. ATSB investigations determine and communicate the factors related to the transport safety matter being investigated.

It is not a function of the ATSB to apportion blame or determine liability. At the same time, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the ATSB endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner.

Developing safety action

Central to the ATSB's investigation of transport safety matters is the early identification of safety issues in the transport environment. The ATSB prefers to encourage the relevant organisation(s) to initiate proactive safety action that addresses safety issues. Nevertheless, the ATSB may use its power to make a formal safety recommendation either during or at the end of an investigation, depending on the level of risk associated with a safety issue and the extent of corrective action undertaken by the relevant organisation.

When safety recommendations are issued, they focus on clearly describing the safety issue of concern, rather than providing instructions or opinions on a preferred method of corrective action. As with equivalent overseas organisations, the ATSB has no power to enforce the implementation of its recommendations. It is a matter for the body to which an ATSB recommendation is directed to assess the costs and benefits of any particular means of addressing a safety issue.

When the ATSB issues a safety recommendation to a person, organisation or agency, they must provide a written response within 90 days. That response must indicate whether they accept the recommendation, any reasons for not accepting part or all of the recommendation, and details of any proposed safety action to give effect to the recommendation.

The ATSB can also issue safety advisory notices suggesting that an organisation or an industry sector consider a safety issue and take action where it believes it appropriate. There is no requirement for a formal response to an advisory notice, although the ATSB will publish any response it receives.

Australian Transport Safety Bureau

Enquiries 1800 020 616

Notifications 1800 011 034

REPCON 1800 011 034

Web www.atsb.gov.au

Twitter @ATSBinfo

Email atsbinfo@atsb.gov.au

Investigation

ATSB Transport Safety Report Marine Occurrence Investigation

Fall from the pilot ladder on the bulk carrier *Atlantic Princess*
Whyalla, South Australia, 3 July 2013

300-MO-2013-007

Final – 9 May 2014