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“The sole objective of the investigation of an accident under the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 shall be the prevention of future accidents through the ascertainment of its causes and circumstances. It shall not be the purpose of such an investigation to determine liability nor, except so far as is necessary to achieve its objective, to apportion blame.”

**NOTE**

This report is not written with litigation in mind and, pursuant to Regulation 14(14) of the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012, shall be inadmissible in any judicial proceedings whose purpose, or one of whose purposes is to attribute or apportion liability or blame.

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## Fatal injury to a crew member on board **E.R.ATHINA** at anchor off Aberdeen 10 June 2012

### SUMMARY

At 0955 (UTC+1) on 10 June 2012, the bosun on board the Liberian registered platform supply ship *E.R. Athina* was fatally injured when he was crushed between the ship's hull and the lifting frame of the ship's fast rescue craft (FRC). The bosun was the FRC's coxswain and the FRC was being positioned alongside the supply ship's port quarter to repair a small area of damaged paintwork. The bosun suffered severe internal chest injuries and was evacuated ashore for medical treatment. He died soon after arriving at hospital.

The MAIB investigation identified that:

- The FRC was being set against *E.R. Athina*'s port quarter by the prevailing swell and tidal stream and the bosun was possibly trying to push the FRC away from the supply ship's hull.

- The use of the FRC as a painting platform had not been properly planned and the risks involved had not been formally assessed.
- The severity of the bosun's injuries was not immediately recognised, and his transfer to hospital ashore would probably have been quicker if it had been arranged through the coastguard rather than the ship's agent.

A recommendation has been made to E.R Offshore GmbH & Cie KG (E.R. Offshore), the ship manager, which is intended to raise the awareness of its crews regarding the importance of completing risk assessments when undertaking new or unusual tasks. It is also aimed at ensuring that prompt action is taken when a medical emergency occurs on board its vessels.



*E.R. Athina*

## FACTUAL INFORMATION

### Narrative

During the afternoon of 9 June 2012, *E.R. Athina* sailed from Aberdeen and anchored approximately 2 miles off the harbour entrance, outside the harbour limit. After anchoring, the master and chief officer agreed to carry out drills with the vessel's two FRCs the following day, weather permitting. They also discussed the possibility of using an FRC as a platform from which to paint an area of damaged paintwork on the port quarter (**Figure 1**) which had been scratched during the vessel's arrival at Aberdeen 2 days earlier.

At 0800 the following morning, the master arrived on the bridge and assessed the environmental conditions. The sea was smooth and the swell appeared to be no more than about 0.5m from the north east. As a result, the master notified the chief officer and the bosun, Pjero Kurida, that the FRC drills and the paintwork repair should go ahead. The master intended to conduct a drill with the port FRC in the morning and with the starboard FRC in the afternoon.

Pjero went to the main deck accompanied by the deck cadet and an ordinary seaman (OS), where they prepared the painting equipment and two 15mm diameter lines to secure the FRC alongside the vessel's port quarter. One line was rigged through the centreline fairlead on the stern and another through a fairlead on the port quarter. Neither of the lines was fitted with 'eyes'. A pilot ladder was also prepared on the deck. This was to be lowered when the FRC was secured alongside to enable the paint to be passed down to the FRC's crew.

At 0900, the chief officer led a toolbox talk on the deck adjacent to the port FRC (**Figure 2**). The talk was attended by the deck cadet, Pjero, and the OS. The points covered in the talk followed the ship manager's risk assessment for the launch and recovery of the FRC, and it included the possible hazards and the associated control methods during the various phases of the drill. The risks of painting the port quarter were not formally assessed and, although the task was mentioned in the toolbox talk, it was not covered in any detail.

For the drill, the chief officer nominated himself to operate the davit winch and the cadet to tend the FRC's painter. Pjero was the FRC's coxswain,

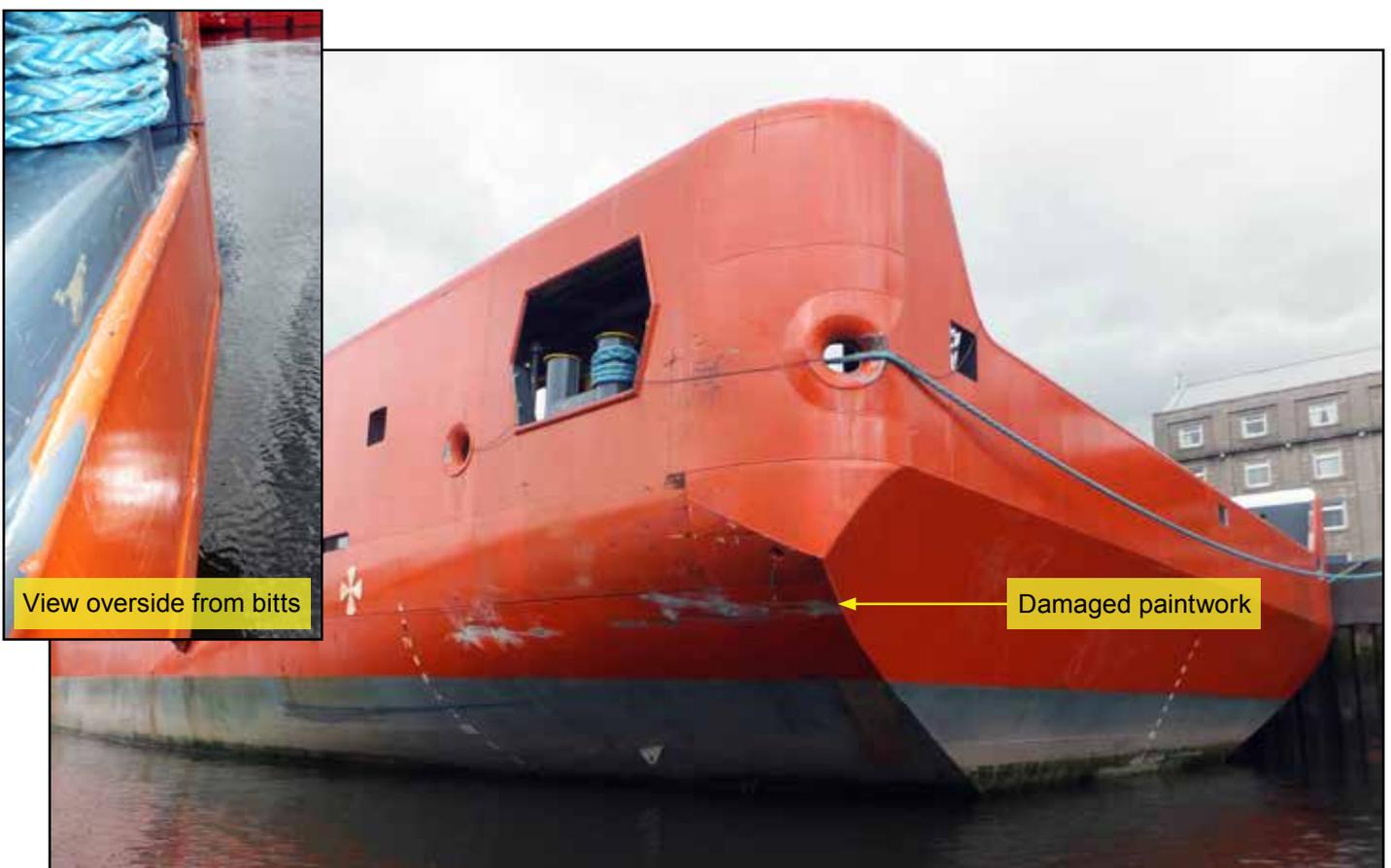


Figure 1: *E.R. Athina* port quarter



**Figure 2:** Port Fast Rescue Craft

with the OS as the boat's crewman. The FRC crew usually comprised a coxswain, an engineer and a seaman, but on this occasion an engineer was not nominated. Each of the crew involved in the drill wore a safety helmet, safety glasses, overalls, boots and gloves. Pjero and the OS also wore inflatable lifejackets.

At 0940, the port FRC was lowered to deck level and its engine was started. The boat was then lowered to the waterline. At 0945, the fall wire hook and painter were released and Pjero tested the FRC's engine by manoeuvring ahead and astern. He then drove the boat around for several minutes before approaching the supply ship's port quarter. The line from the centreline fairlead at the stern had already been lowered and the deck cadet was ready to tend the line from the port quarter. The master and the chief officer were watching from the main deck. Pjero intended to secure the FRC alongside *E.R. Athina's* port quarter, with its bow pointing towards *E.R. Athina's* stern (**Figure 3**).

After some initial difficulty, the OS caught the line from the centreline fairlead. However, he was unable to secure it to the single bitt fitted to the FRC's bow (**Figure 2**) so Pjero left the FRC's control console to assist him. When the bow line was eventually secured, Pjero returned to the control console and manoeuvred the FRC astern towards the line from the fairlead on *E.R. Athina's*

port quarter, which by that time had been lowered by the cadet. The OS moved aft and secured this line to the bitt on the FRC's stern.

The FRC was moving up and down on the swell, which was also setting the boat under the cutaway or counter section of *E.R. Athina's* hull (**Figures 1 and 3**). Pjero and the OS had to crouch due to the reduced headroom under the counter, and they also had to push against *E.R. Athina's* side to prevent the FRC from being damaged. The FRC's crew were concerned with the situation, so Pjero asked the chief officer to take in the slack in the bow and stern lines to try and reduce the FRC's movement. At about the same time, the chief officer and the master realised that Pjero was experiencing difficulties and asked him if the painting task was feasible. Pjero replied that it was.

The chief officer took in the slack in the bow line, but he could not see that the bow line had started to slip from the bitt on the FRC. The OS grabbed hold of the line just before it completely detached and, as he did so, he heard Pjero cry out in pain. The OS turned and saw that Pjero was trapped between the ship's hull and the FRC lifting hook frame (**Figure 2**), facing the frame. Pjero remained trapped for several seconds until he collapsed on to the deck of the FRC.

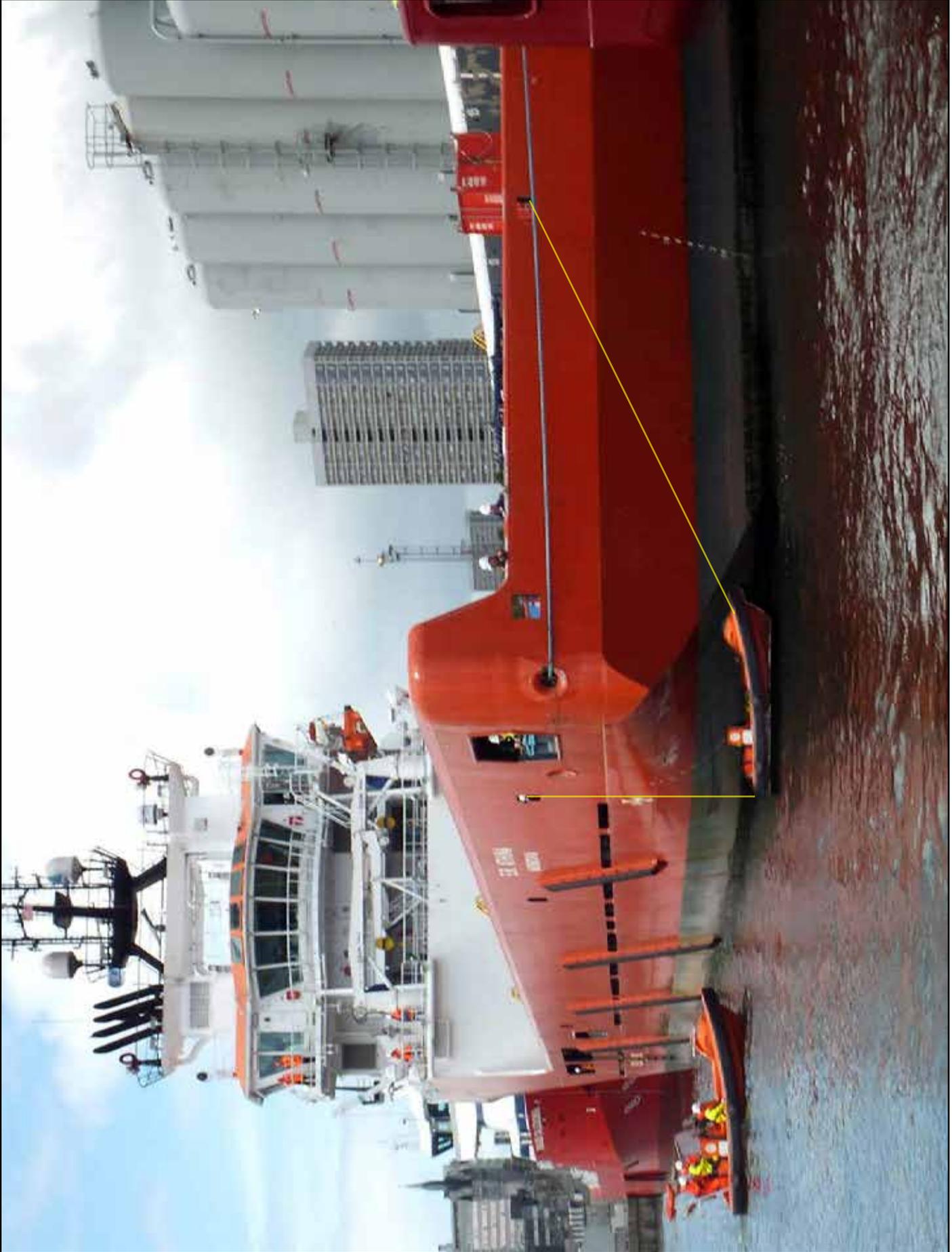


Figure 3: Illustration showing securing arrangement

On hearing Pjero's cry, the master immediately went to the side opening by the bits on the port quarter and leaned over the vessel's side. Pjero was lying on his left side and, although clearly injured, he was conscious and able to talk. The master told Pjero to remain still because he was aware of the possibility that he might have injured his spine.

The chief officer lowered the pilot ladder and climbed down into the FRC. He then drove the boat under the port davit, where it was hoisted by the master operating the davit winch and the cadet tending the painter. As soon as the FRC was on the deck, the cadet was sent to fetch a stretcher from the accommodation area. En route he alerted other crew members in their cabins, including the second officer who was the ship's medical officer. Meanwhile, the master went to the bridge and, at 1005, he contacted the ship's agent at Seletar Shipping Ltd by mobile telephone and requested that he arrange for Pjero to be taken ashore for medical treatment. The master also ordered the officer of the watch (OOV) to alert the rest of the crew; the general alarm was not sounded.

By the time the second officer arrived at the FRC, Pjero had been placed on a stretcher. He remained in the FRC and he was still wearing his personal protective equipment, including the lifejacket. The second officer saw that Pjero was pale and had constricted pupils. He was also coughing and breathing heavily, but the second officer did not see any external signs of bleeding. Pjero remained conscious and responsive. When he was asked about his injuries he replied that his right arm was sore and that he thought his ribs were broken.

The second officer had limited confidence in his abilities as medical officer so he returned to the bridge and referred to the guidance on the treatment of a simple rib injury detailed in the *International Medical Guide for Ships*. Then, with the permission of the master, he gave Pjero 50 milligrams of Tramadol (a narcotic-like pain reliever used to treat moderate to severe pain). Pjero was then taken on the stretcher from the FRC to the main deck.

At about 1007, the ship's agent contacted the skipper of *Skua*, a fishing vessel which was used to support ships at anchor off Aberdeen. The agent asked the skipper to collect an injured crewman with "a suspected cracked rib" from *E.R. Athina*. *Skua's* skipper immediately stopped fishing and headed towards the supply ship at a speed of 8.5

knots. During the short passage, the skipper called *E.R. Athina's* master and discussed the transfer of the injured crewman. The skipper was told that Pjero was unable to walk and would be transferred by stretcher.

At 1033 *Skua* arrived alongside *E.R. Athina's* port side, but her skipper immediately became concerned about the effect the swell was having on the movement of the two vessels. He contacted *E.R. Athina's* master to request a better lee, and the master then arranged for one of the supply ship's engines to be started. He then manoeuvred *E.R. Athina* about her anchor in order to provide more shelter from the swell on the port side. On completion, *Skua's* skipper boarded *E.R. Athina* and spoke to Pjero. He realised that the bosun's injuries were more serious than initially reported, so he telephoned the ship's agent and asked him to arrange for an ambulance to meet *Skua* on her arrival in Aberdeen.

The ship's agent dialled 999, the emergency telephone number in the UK, from his office telephone, but was unable to make a call because the telephone system had recently been upgraded and had not yet been set up to allow emergency calls to be made. The agent was also unable to contact the emergency services with his mobile telephone due to a weak signal, so he contacted *E.R. Athina* using the office telephone system and advised the second officer to arrange an ambulance.

Meanwhile, at approximately 1050, Pjero was lowered into *Skua*, which then sailed towards Aberdeen. Three of *E.R. Athina's* crew accompanied Pjero, none of whom were first-aid trained. At 1103, *Skua's* skipper contacted the Maritime Rescue Co-ordination Centre (MRCC) Aberdeen on Very High Frequency (VHF) radio channel 16. MRCC Aberdeen was unaware of Pjero's injuries and immediately arranged for an ambulance to meet *Skua* at the Aberdeen lifeboat station.

At 1125, *Skua* arrived alongside the lifeboat station and was met by a member of the lifeboat crew. A paramedic fast response vehicle arrived 4 minutes later, closely followed by an ambulance. The ambulance left the lifeboat station at 1202 and arrived at Aberdeen Royal Infirmary Accident and Emergency Department at 1208. Pjero was declared deceased at 1259.

Postmortem examination identified that Pjero had suffered widespread trauma to his ribs on both sides of his chest. Damage to his liver and pulmonary veins had also resulted in extensive internal bleeding.

## Crew

*E.R. Athina* had a crew of 16, who generally worked 6 hour watches followed by 6 hours rest. The working language on board was English.

Pjero Kurida was Croatian and 29 years old. He was a qualified navigation watchkeeping rating and an FRC coxswain who had extensive experience working on board *E.R. Athina* as a bosun and an able seaman (AB). Pjero was a popular and knowledgeable member of the ship's crew who kept himself very fit and was studying to become an officer.

The master was Polish, 40 years old and held an STCW<sup>1</sup> II/2 unlimited certificate of competency and qualifications in medical care and first-aid. He had first joined E.R. Offshore as a second officer in 2008 and was promoted to master in April 2012. He joined *E.R. Athina* for his first contract on board as master on 30 May 2012 and took command on 6 June 2012 following a 1 week handover.

The chief officer was Polish and 38 years old. He had worked for E.R. Offshore for 5 years and had completed several contracts on board *E.R. Athina* during the previous 2.5 years. The chief officer held an STCW II/2 unlimited certificate of competency. His other qualifications included medical care and first-aid, and FRC coxswain.

The second officer was Slovenian, 26 years old, and held an STCW II/1 unlimited certificate of competency. He also held qualifications in medical care and first-aid, and was the ship's medical officer. The second officer had worked for E.R. Offshore since January 2008 and had started his first contract on board *E.R. Athina* on 23 May 2012.

The deck cadet was Ukrainian and was 20 years old. He had been on board for 3 months. He was due to be promoted to third officer in August 2012.

## Environment and vessel movement

The weather in Aberdeen Bay on the morning of 10 June 2012 was dry and overcast. The wind was from the north-north-east at between 8 and 10 knots and the sea was smooth. The swell was north-easterly with an average height of 0.5m. The tidal stream at 0800 was setting towards 226° at a rate of 0.45 knot. By 0955, it was setting towards 345° at a rate of 0.5 knot.

Between 0800 and 0905, *E.R. Athina* yawed between a heading of 012° and 041°. Between 0905 and 0955, the supply ship's heading changed from 041° through north and west to 258°.

## Onboard guidance and procedures

E.R. Offshore provided risk assessment training for its senior officers. Guidance in the vessel's safety management system outlined the responsibilities of masters and heads of department in relation to hazard identification and risk assessment. Section 5.2.5.1 of the onboard manual stated:

### *Step 1 – Select the job to be analysed*

*A risk assessment should be performed at least:*

- *When an unusual or infrequent task is to be carried out*
- *For any task where there is a foreseeable risk of an incident or injury or an environmental hazard and no procedure/checklist exists, regardless of severity.*
- *For any task that has previously resulted in incident or injury, regardless of severity*
- *When new tasks, different working material or operations are implemented.*

The vessel's emergency operations manual (offshore) contained guidance and reporting checklists which were to be used at the master's discretion in the event of an emergency. The guidance included:

- Reporting procedures and emergency contacts
- Personnel Accident – Serious Injury checklist
- Personnel Accident – Disembarkation of sick or injured persons

The reporting procedures required that records of all coastal state and port contacts (including the emergency services) be kept on board. The emergency operations manual on board *E.R. Athina* contained the contact details for MRCC

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<sup>1</sup> STCW – Standards of Training and Certification of Watchkeepers

Aberdeen but the manual was not referred to by the master or any of the vessel's crew following Pjero's accident.

## ANALYSIS

### Entrapment

Pjero sustained fatal injuries when he was crushed between the side plating on *E.R Athina's* port quarter and the lifting frame fitted to the FRC. At the time, the FRC was secured to the supply ship by bow and stern lines, and the boat was being repeatedly set against the supply ship by the combined effects of the swell and the tidal stream. Pjero had been standing behind the FRC's control console and it is likely that he moved onto the FRC's port side in order to push the FRC clear of *E.R. Athina*, as he and the OS had managed to achieve several times previously.

Given the position in which Pjero became trapped, it is possible that he was trying to push the FRC clear by resting his back against the supply ship's hull and pushing the base of the lifting frame with his feet. Although the swell had not appeared to be larger than 0.5m, on this occasion the effect of forces generated by the waves, and to a lesser extent the tightening of the bow line, on the movement of the FRC were evidently more powerful than Pjero had anticipated or previously experienced.

### Changing conditions

Between 0800, when the master decided to proceed with the FRC drills and the paintwork repair, and 0955 when Pjero was fatally injured, *E.R. Athina's* heading had altered significantly. At 0800, the vessel's heading was 012° with the prevailing wind, swell and tidal stream setting on to her starboard bow. As a result, the port quarter and stern were relatively sheltered (**Figure 4**).

By the time the FRC had been secured alongside the port quarter at 0955, *E.R. Athina* had swung about her anchor onto a more westerly heading. On this heading, the supply ship was balanced between the effects of the wind and tidal stream, and her stern and port quarter were far more exposed to the north-easterly swell (**Figure 5**). Although the supply ship's alteration of heading was almost certainly due to the change in direction of the tidal stream from 226° to 345°, the tidal stream was not calculated or monitored and was therefore not taken into account. Consequently,

the effects of the exposure of the port quarter to the swell, which were predictable, were not fully appreciated until Pjero and the OS had difficulty in positioning the FRC alongside.

### Planning and execution

Pjero's preparation of the painting equipment, securing lines and the pilot ladder indicate that he had thought about how to complete the paintwork on the port quarter. However, the lack of detail in the toolbox talk strongly indicates that the paintwork repair was seen by the master and chief officer as a simple and straightforward task, which could be conveniently completed in conjunction with the FRC drill. It was not treated or assessed as a separate activity from the drill, and the use of the FRC as a painting platform in an open anchorage was not recognised as an unusual or infrequent activity.

Despite the vessel's senior officers being trained to undertake risk assessments, and contrary to the requirements of the onboard safety management system, no formal risk assessment was undertaken. Consequently, several key factors were overlooked or were not adequately addressed, including:

- The hazards encountered when positioning and working from the FRC under the sloping counter on the port quarter.
- The effect of the swell and the significance of the vessel's heading when at anchor.
- The method of attaching the bow and stern lines to the FRC's single bitts.
- The difficulty in supervising the FRC's crew from the main deck due to the limited view of the FRC under the hull counter, and
- The limitations of having only two crew in the FRC, which was a deviation from the usual practice on board the vessel, and was unwarranted given the crew's watchkeeping cycle.

As a result, despite the cosmetic nature of the intended work and the safer option of completing the paintwork repair in the sheltered waters of an alongside berth, the master's decision to proceed with the painting was never challenged.

Nevertheless, the activity could have been stopped at any time by the master, the chief officer or Pjero, but it was not. The master and the chief officer did not fully appreciate the difficulties experienced by

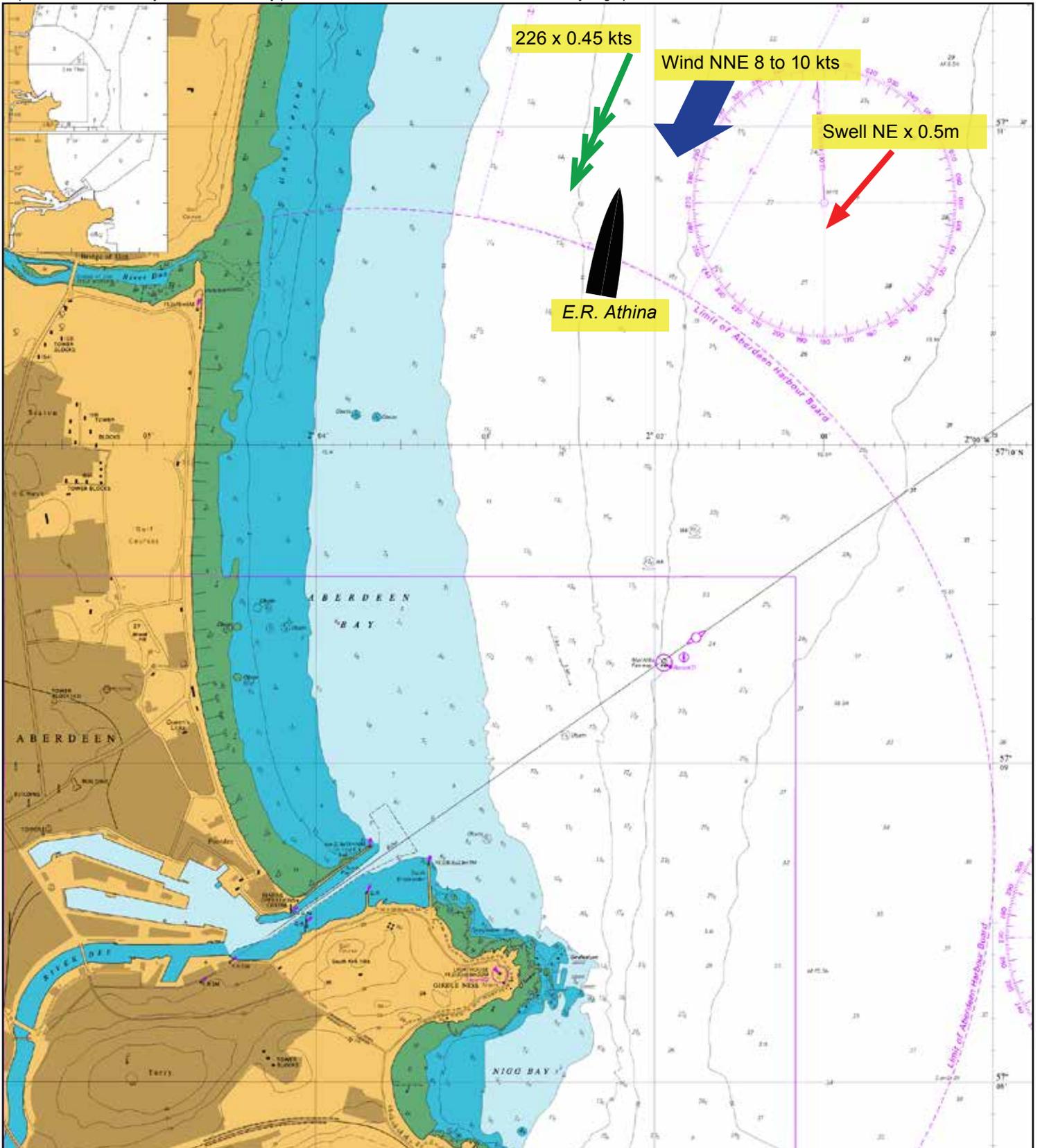


Figure 4: Environmental conditions at 0800 10 June 2012

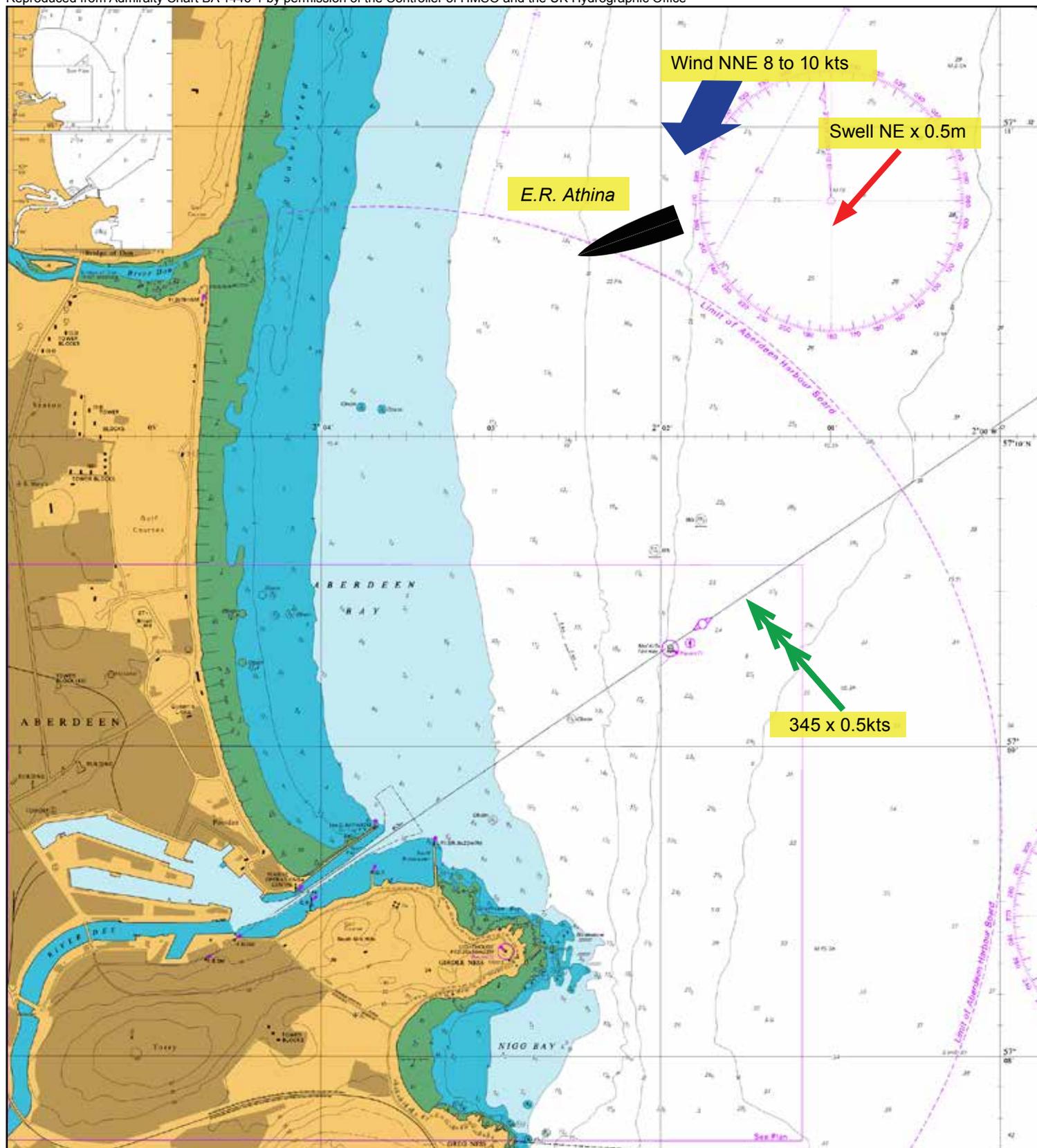


Figure 5: Environmental conditions at 0945 10 June 2012

the FRC crew due to their limited field of view from the main deck, and Pjero informed them that he was content to carry on.

Pjero was an experienced and respected seaman but, as a prospective officer, he was also clearly ambitious. Therefore, it is possible that he did not pass on his concern over the FRC's movement against the supply ship's side because he wanted to complete the job and please the recently joined master, regardless of the risk of personal injury.

### Emergency response

Following the accident, the crew's positive actions enabled the FRC to be quickly recovered on board and for Pjero to be examined by the second officer. However, because Pjero's injuries were internal and he was conscious and responsive, the potential severity of his condition was not immediately apparent. Although the master quickly contacted the ship's agent and arranged for Pjero to be transferred ashore, and the second officer administered pain relief after consulting the *International Medical Guide for Ships*, both actions were based on the assumption that Pjero's injuries were limited to broken ribs. The possibility of injury to internal organs, or of contacting the coastguard in order to seek expert medical advice or arrange a more rapid means of getting Pjero to hospital, such as by helicopter, do not appear to have been considered. Consequently, although *Skua* arrived quickly on the scene, potentially valuable time was lost through the subsequent delay in transferring Pjero across to the fishing vessel and the difficulties in arranging for an ambulance to meet the fishing vessel when she arrived in Aberdeen.

## CONCLUSIONS

- Pjero was possibly trying to push the FRC away from *E.R. Athina*'s port quarter as the boat was being set against the hull counter by the combined effects of the prevailing swell and the tidal stream.
- The use of the FRC as a painting platform had not been properly planned and the risks involved had not been formally assessed.
- Pjero was having difficulty in positioning the FRC, but he did not inform the master or chief officer of his concerns.
- The severity of Pjero's injuries was not immediately recognised.
- Potentially valuable time was lost by arranging Pjero's transfer to hospital through the ship's agent rather than through the coastguard.

## ACTION TAKEN

**E.R Offshore GmbH & Cie KG** has:

Conducted risk assessment and emergency response training on board *E.R Athina* and has started the development of a “*safety behavioural observation*” training module, which it intends to use on board all of its ships.

**Seletar Shipping Limited** has:

Developed a new procedure to be followed on the receipt of an emergency call from its vessels, and is examining ways of distributing information regarding the availability of local emergency services.

## RECOMMENDATIONS

**E.R. Offshore GmbH** is recommended to:

2013/200 Provide specific guidance to its senior officers on:

- The importance of completing onboard risk assessments before undertaking activities where the hazards and control measures have not been already identified; and
- The advantages of immediately alerting shore authorities, such as the coastguard, as soon as a medical emergency occurs on board.

## SHIP PARTICULARS

Vessel's name	<i>E.R. Athina</i>
Flag	Liberia
Classification society	DNV – Det Norske Veritas (Norway)
IMO number	9448528
Type	Platform Supply Ship
Registered owner	NORDCAPITAL Offshore
Manager(s)	E.R. Offshore GmbH & Cie KG
Construction	Steel
Length overall	93m
Registered length	Not applicable
Gross tonnage	4488
Minimum safe manning	9
Authorised cargo	Not applicable

## VOYAGE PARTICULARS

Port of departure	Aberdeen
Port of arrival	Aberdeen
Type of voyage	Not applicable
Cargo information	None
Manning	16

## MARINE CASUALTY INFORMATION

Date and time	10 June 2012 at 0955
Type of marine casualty or incident	Very Serious Marine Casualty
Location of incident	2 miles north of Aberdeen Harbour entrance
Place on board	Overside (ship's boat)
Injuries/fatalities	One fatality
Damage/environmental impact	None
Ship operation	At anchor
Voyage segment	Not applicable
External & internal environment	Daylight; good visibility; wind 8-10 knots. The sea was smooth with a 0.5m swell. The tidal stream was 345° at 0.5 knot
Persons on board	16