



REPUBLIC OF THE MARSHALL ISLANDS

Maritime Administrator

AM PRIDE MARINE SAFETY INVESTIGATION REPORT

Accommodation Fire

Indian Ocean | 12 September 2024

Official Number: 11023

IMO Number: 9359167



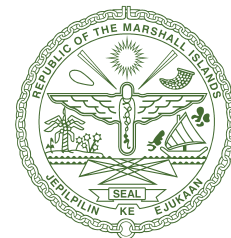
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AUTHORITY

An investigation, under the authority of the Republic of the Marshall Islands laws and regulations, including all international instruments to which the Republic of the Marshall Islands is a Party, was conducted to determine the cause of the casualty.



Maritime Administrator

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LIST OF ABBREVIATIONS AND ACRONYMS

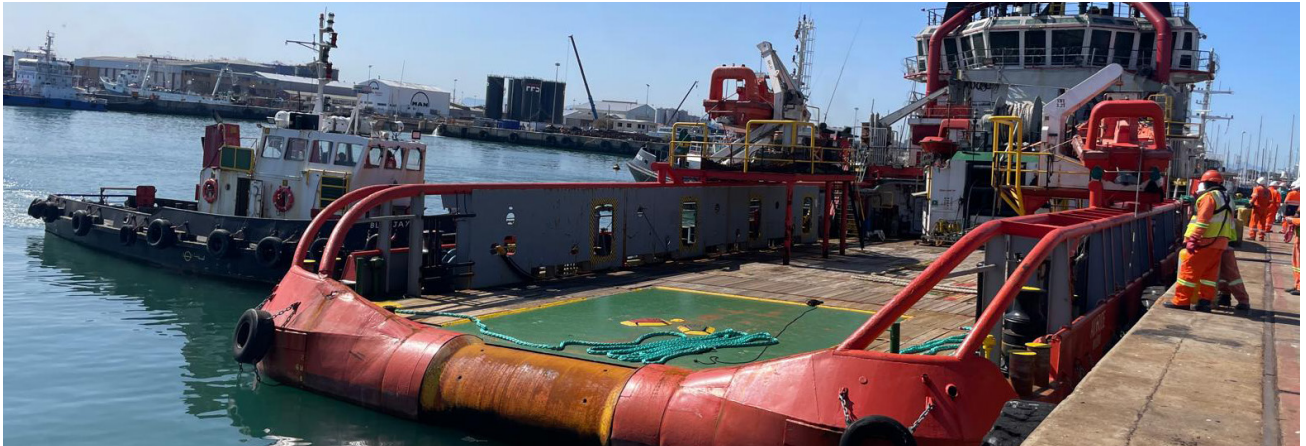
°C	Degrees Celsius
2/E	Second Engineer
2/O	Second Officer
3/E	Third Engineer
A	Ampere
AHTS	Anchor Handling Tug Supply
AHU	Air Handling Unit
ASD	Able Seafarer Deck
C	Center
C/E	Chief Engineer
CCTV	Closed Circuit Television
CO ₂	Carbon Dioxide
ECR	Engine Control Room
EEBD	Emergency Escape Breathing Device
EPIRB	Emergency Position Indicating Radio Beacon
ETO	Electro Technical Officer
ETV	Emergency Towing Vessel
FOT	Fuel Oil Tank
GMDSS	Global Maritime Distress and Safety System
HSSEQ	Health, Safety, Security, Environment, and Quality
IRS	Indian Register of Shipping
kn	Knots
kW	Kilowatt
L	Liter
m	Meter
MGO	Marine Gasoil
MOB	Man Overboard
MRCC	Maritime Rescue Co-ordination Centre
NM	Nautical Miles
No.	Number

LIST OF ABBREVIATIONS AND ACRONYMS (CONTINUED)

OS	Ordinary Seafarer
OOW	Officer of the Watch
PA	Public Address
PetroSA	Petroleum Oil and Gas Corporation of South Africa
PSC	Port State Control
RA	Risk Assessment
SAMSA	South African Maritime Safety Authority
SART	Search and Rescue Transponder
SCBA	Self-contained Breathing Apparatus
SMS	Safety Management System
UTC	Coordinated Universal Time
VHF	Very High Frequency

DOCUMENTS CITED

Ballast Water Management Convention	International Convention for the Control and Management of Ships' Ballast Water and Sediments
Fire and Safety Plan	AM PRIDE Life Saving and Fire Fighting Equipment Plan C3844/S-3
ISM Code	International Safety Management Code for the Safe Operation of Ships and for Pollution Prevention
MLC, 2006	Maritime Labour Convention, 2006
SOLAS	International Convention for the Safety of Life at Sea
STCW Code	Seafarers' Training, Certification and Watchkeeping Code



PART 1: EXECUTIVE SUMMARY

On the morning of 12 September 2024, the fire alarm on board the Republic of the Marshall Islands-registered AHTS vessel AM PRIDE activated. The vessel was engaged in helicopter stand-by duty, approximately 1.5 NM away from the FA Platform¹ south of Mossel Bay, Republic of South Africa (hereinafter “South Africa”). AM PRIDE was managed by V.Ships Offshore (Asia) PTE LTD (the “Company”) and had recently undergone a change of 80% of its crew.

At 1000,² the fire panel located on the vessel’s Navigation Bridge indicated an activated alarm in three zones inside the Accommodation and an activated alarm in the Bow Thruster Room. Upon verification, black smoke was observed in the Main Deck Alleyway inside the Accommodation, but no flames were visible. A PA was made by the Master and, subsequently, the crew mustered on the forecastle deck. Many doors inside the Accommodation, including fire doors, were open and the ventilation was operating in full recirculation mode when the fire broke out. These conditions facilitated the smoke rapidly spreading through the entire Accommodation and complicated the determination of the source of the fire and subsequent firefighting activities.

Around 1100, it was observed that crewmembers had not succeeded in locating the exact source of the fire or in controlling the fire. Subsequently, the Master decided to lock down the Accommodation and Engine Room and to shut down the main engines. Arrangements were made for the evacuation of the vessel by helicopter.

Between 1350 and 1540, while waiting for evacuation, crewmembers continued firefighting activities and assessed the fire to be under control, however it could not be established if the fire had been extinguished. At 1540, a helicopter rendezvoused with AM PRIDE and commenced evacuating crewmembers.

At 1600, all crewmembers were safely evacuated and the vessel was abandoned.

On 13 September 2024, an emergency towing vessel arrived and a salvage team boarded AM PRIDE. After it was confirmed that the fire had in fact been extinguished, AM PRIDE was towed to Cape Town, South Africa where it

¹ Situated within the FA gas field, part of Bredasdorp Basin.

² Unless stated otherwise, all times are ship’s local time (UTC +2).

arrived on 21 September 2024. Upon arrival, the observed fire damage was primarily located on the main deck level inside the Accommodation and in the cabin above the Recreation Room. The most severe damage was observed inside the Recreation Room. Smoke damage was observed throughout the entire Accommodation and the Navigation Bridge.

A fire expert determined that the fire most probably occurred by a tracking defect inside the sockets mounted on the portside bulkhead of the Recreation Room. The Administrator's investigation determined that the crew's limited familiarization with the vessel, the recent 80% crew change, and the compromised fire integrity by means of open doors on board resulted in the abandonment of the vessel.

The following lessons learned were identified.

- When a room is used for a purpose other than that for which it was originally designed, its suitability should be verified, and the room should be arranged for the new use to ensure that goods or equipment can be stowed in a safe and secure way. An RA, as part of a management of change process, could help to determine if any original installations needed to be adapted or decommissioned for the new purpose of the room.
- Immediate smoke containment by early shutdown of the ventilation and strict fire door control avoid the rapid spreading of fire and smoke in case of fire on board, and will facilitate in locating the source of the fire.
- Fire doors not fitted with self-closing devices should not be maintained open by use of rope, wedges, or any other means, and should always remain closed when not in use.
- Self-closing devices should be tested regularly to ensure that they are operating properly.
- An 80% crew change requires additional attention related to the familiarization with safety equipment and critical safety duties in emergency situations.
- Fire and safety equipment on board that is in excess of the minimum required on the vessel's Fire and Safety Plan should be included in shipboard contingency plans, monthly and weekly inspections, and incorporated within crewmember familiarization checklists.

PART 2: FACTUAL INFORMATION

The following Factual Information is based on the information obtained during the Administrator's marine safety investigation.

Vessel particulars at the time of the incident: *see* chart on page 10.

AM PRIDE Vessel History

On 4 January 2024, prior to being registered in the Republic of the Marshall Islands, the South Africa-registered AHTS vessel LEWEK HARRIER (*see Figure 1*), which had been berthed alongside in Mossel Bay, South Africa since 17 December 2023, changed registration back to Singapore following completion of a bareboat charter. There was no change of management during the change of registration.

On 8 February 2024, the vessel underwent a change of ownership and was registered in the Republic of the Marshall Islands as AM PRIDE. The vessel also underwent a change of management to the Company.

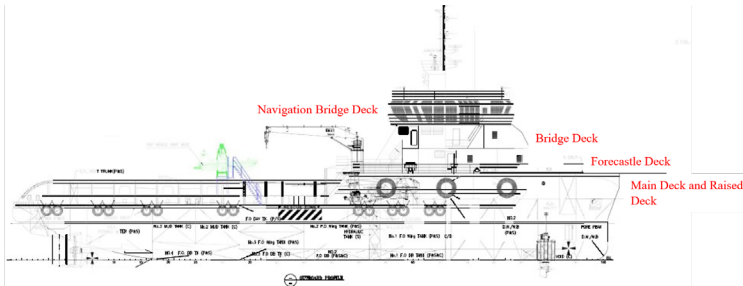


Figure 1: General Arrangement.

On 9 February 2024, SAMSA conducted a PSC inspection on board. One of the remarks was that the fire door to the Galley and Recreation Room was malfunctioning. The reported defects during the PSC inspection were closed out on 9 March 2024.

On 15 March 2024, AM PRIDE moved from Mossel Bay to Cape Town, South Africa. On 16 March 2024, AM PRIDE anchored off Cape Town and on 20 March 2024, the vessel went alongside at Cape Town for general repairs, periodical inspections, and modifications to the ballast water system.³ On 17 May 2024, the classification society of the vessel was changed from Lloyd’s Register to IRS.

On 28 May 2024, a flag State safety inspection was carried out on board. It was observed that the stairwell fire doors inside the Accommodation were not self-closing and it was reported that the doors needed to be repaired and/or adjusted. On 5 July 2024, pictures were received by the flag State demonstrating that the required repairs and adjustments had been made.

On 4 July 2024, interim classification certificates were issued by IRS. The only item due to be rectified was the approval and verification of the revised ballast water system plans subsequent to the modification of the ballast water system.⁴

3 To comply with the Ballast Water Management Convention. As of the date of the casualty, AM PRIDE had been exempted from this convention as the operating area was restricted to South Africa waters only. The intention of the new owners was to deploy AM PRIDE in the Federal Republic of Nigeria (hereinafter “Nigeria”).

4 Overdue Statutory Condition CHN24F001/CHN since 19 July 2024, as mentioned on the IRS Survey Status Report.

SHIP PARTICULARS

Vessel Name
AM PRIDE

Registered Owner
AM PRIDE Limited

ISM Ship Management
V.Ships Offshore (Asia) PTE LTD

Flag State
Republic of the Marshall Islands

IMO No. 9359167	Official No. 11023	Call Sign V7A6465
Year of Build 2006	Gross Tonnage 1,951	
Net Tonnage 585	Deadweight Tonnage 2,018	
Length x Breadth x Depth 63.22 x 16 x 6 m		

Ship Type
AHTS

Document of Compliance
Recognized Organization
Lloyd’s Register

Safety Management Certificate
Recognized Organization
Lloyd’s Register

Classification Society
IRS

Persons on Board
15

On 25 July 2024, the annual inspection of fire equipment by an authorized agent was conducted. The inspection report included, but was not limited to, the following equipment:

1. 56 fire extinguishers;
2. 10 SCBA sets without cylinders, of two different manufacturers;
3. 25 SCBA 6 L cylinders at 200 bar working pressure;
4. six EEBD sets; and
5. one breathing air compressor.

The report indicated that the following repairs were executed.

1. The CO₂ hose for the fire extinguisher in the Galley was renewed.
2. The cylinders of four EEBDs available on board were hydrostatically tested and refilled.
3. The breathing air compressor was modified to comply with air purity standards.

On 2 August 2024, AM PRIDE left Cape Town and proceeded to the FA Platform offshore Mossel Bay.

Narrative

On the morning of 12 September 2024, AM PRIDE was engaged in helicopter stand-by duty, approximately 1.5 NM south of the FA Platform. The helicopter was expected to arrive around 1020.

Between 0800 and 1000, the Oiler2, Fitter, 3/E, and C/E prepared the transfer of MGO from the No. 2 C FOT to the portside day tank by means of a portable pump and a flexible hose through the manhole of No. 2 C FOT. The internal transfer pump was out of order due to a suction valve that had been damaged on 7 September 2024. Shortly before 1000, the preparations for the MGO transfer were finished but the operation was not commenced.⁵ The C/E went to the smoking area on the main deck and the Oiler2 went to the Navigation Bridge to complete an online training course together with the Oiler1 who was off duty.

Around the same time, the ETO had finished working on the internet connection on the Bridge and went via the staircase inside the Accommodation, through the Galley, and to the Mess to get a cup of coffee, whereafter he continued his way to the outside main deck where he met the C/E for a smoke. The Steward and Chief Cook were working in and around the Galley.

⁵ The internal fuel transfer of MGO was not related to the fire incident.

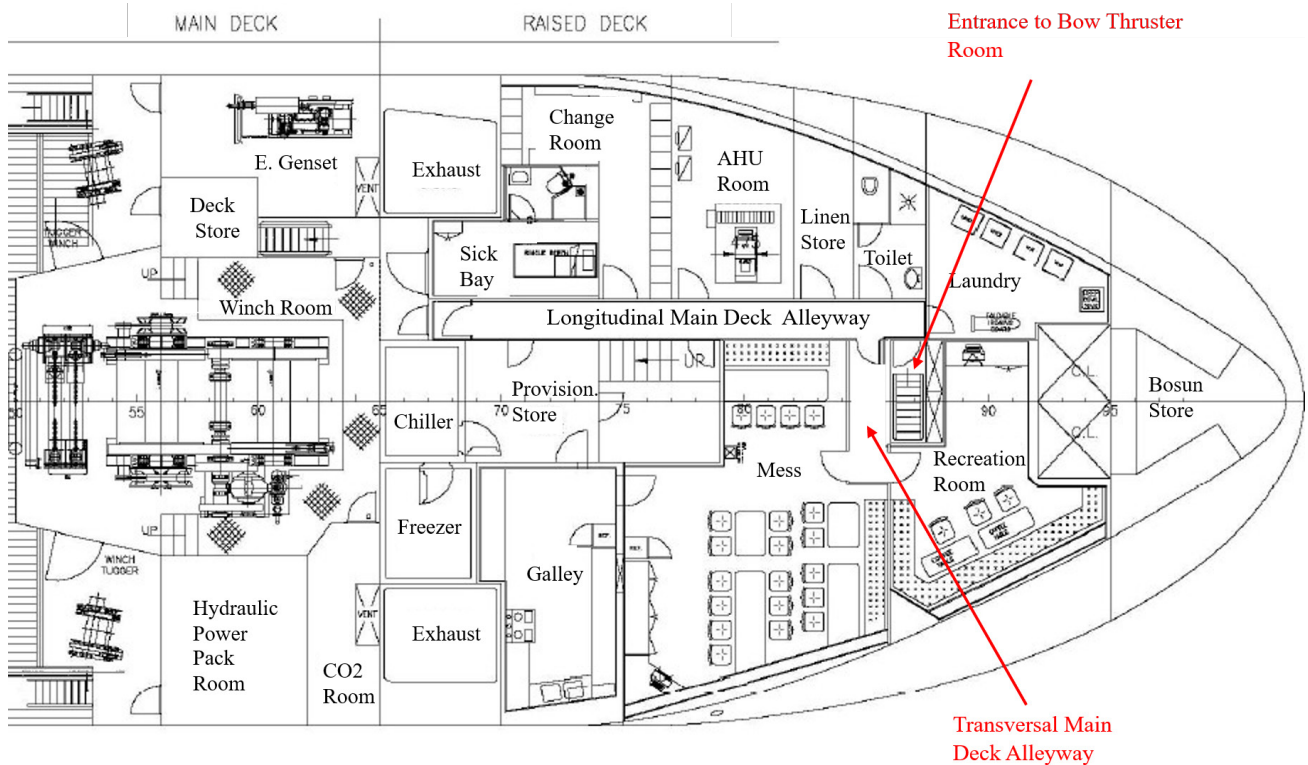


Figure 2: Accommodation main deck.

The 2/O and the ASD2 were on watch on the Navigation Bridge. The vessel was on manual steering and the 2/O had the wheel. The Master was also present on the Navigation Bridge.

The C/O, 2/E, ASD1, and ASD3 were off-duty and were resting inside their cabins. The cabins of the C/O and the 2/E were located on the Bridge Deck.⁶ The ratings were sleeping on the forecastle deck.

The prevailing weather conditions in the area were described as poor to bad with a southeasterly wind gusting at up to 35 kn, a swell of between 3.5–5 m, and visibility of approximately 7 NM.

At 1000, the fire alarm sounded on board AM PRIDE.⁷ The fire alarm panel, with indication of the alarm zones, was located on the Bridge. In the Engine Room, there was a visible indicator in addition to the fire alarm, but there was no repeater of the fire alarm panel. The OOW noticed that three indicator lights on the fire panel activated shortly after each other, indicating a fire in three zones. The OOW could not determine which zone had activated first, but he identified that zones 3, 4, and 5 had activated, covering the Accommodation area and the Bow Thruster Room.⁸

⁶ The Navigation Bridge Deck, where navigation takes place, is located above the Bridge Deck where the cabins are located (see Figure 1).

⁷ The indicated actions and timings are based on interviews with the crewmembers on board. The Company's SMS contained a checklist G5 — Fire in Accommodation-Offshore, but a completed checklist had not been encountered during the investigation. No recording of events occurred during the emergency response, as it was reported that there was no time to do so.

⁸ The fire panel on board was a TYCO T1216-C unit. Connected sounders and/or visual alarms were triggered when the panel received a fire signal. The fire alarm on board AM PRIDE was a long continuous alarm as indicated on the Emergency Muster List.

ZONE	AREA INCLUDED	TYPE OF DETECTOR
3	Forecastle Deck Port and Starboard Side	Smoke
4	Laundry, Recreation Room, Mess, Galley, Main Deck Alleyways, Sick Bay	Heat and Smoke
5	Entrance to Bow Thruster Room, Tween Deck, Bow Thruster Room	Heat and Smoke

Figure 3: Fire zone coverage of specific areas and type of detector within each fire zone.

Subsequently, the Master directed the Oiler1, Oiler2, and ASD2 to check the areas indicated by the fire panel alarm. The Oiler1 went to the forecastle deck first and then proceeded to the main deck inside the Accommodation, while the ASD2 went directly to the main deck. The Oiler2 went to the Engine Room to check the status of the Engine Room, Steering Gear Room, and Bow Thruster Room with the assistance of the 3/E and Fitter.

When the ASD2 arrived at the main deck via the staircase inside the Accommodation, he observed smoke inside the Longitudinal Main Deck Alleyway coming from behind the closed AHU Room door. He reported this to the Bridge using the intercom system in the Galley. At that moment, the ventilation inside the Accommodation was running in recirculation mode. The Master made a PA announcement to alert the crewmembers that there was an Accommodation fire and ordered the crew to assemble at the Muster Station. The ASD2 then proceeded toward the forward part of the Longitudinal Main Deck Alleyway. He did not observe any smoke through the open door of the Laundry Room but did see smoke coming from the Transversal Main Deck Alleyway, where there was further access to the Recreation Room, which was used as a storage space, and to the Mess Room. The ASD2 then returned to the Bridge.

When the fire alarm sounded, the C/O and the 2/E went to the Navigation Bridge Deck, one deck above their respective cabins. The door at the bottom of the stairway leading from the Bridge Deck to the Navigation Bridge Deck was kept open by means of a rope. Upon arrival at the Bridge, they were informed by the Master about the observed smoke coming from the AHU Room. The C/O then proceeded to the Muster Station. The 2/E went down to the main deck to observe the situation.

Upon hearing the fire alarm, the C/E proceeded immediately to the Engine Room. The ETO proceeded to the Muster Station near the rescue boat on the forecastle deck, one deck above the main deck, where the C/O informed him about the fire.

The ASD1 and ASD3 proceeded to the Muster Station, located on the forecastle deck, the same deck as where their cabins were located.

The Steward and Chief Cook left the Galley when they heard the PA announcement. They had not observed any smoke inside the Galley. The fire door and the service hatch between the Galley and the Mess Room were kept open and so was the door between the Mess and the Transversal Main Deck Alleyway.

The Oiler1 had proceeded from the Engine Room, where no smoke was observed, to the Bridge Deck. When the PA announcement was made, he went to the Muster Station and reported that he had already observed some smoke on the Bridge Deck before he left.

Meanwhile, the ETO went from the Muster Station to the AHU Room inside the Accommodation to switch off the electrical breakers for the Accommodation spaces and to stop the ventilation. He was not wearing any fire protection or breathing apparatus. He found it difficult to breathe as smoke entered the AHU Room. He immediately left the AHU Room after switching off the breakers and the ventilation. It is not known if the ETO reported to the C/O or the Master that he had switched off the electrical breakers to the Accommodation area and stopped the ventilation.

By that time, the Oiler2 had reached the main deck from the forecastle deck. He was inside the Galley when the lights went off. He then proceeded to the Muster Station.

After making the PA announcement, the Master went down to the main deck to observe the situation. When he arrived from the staircase at the Longitudinal Main Deck Alleyway, he met the C/E, who was on his way to the AHU Room to switch off the breakers and the ventilation to the Accommodation. The door of the AHU Room was observed to be open and smoke had already entered the AHU Room. After accessing the AHU Room, the C/E proceeded to the Muster Station and the Master returned to the Navigation Bridge, where he met the ETO who voluntarily donned an SCBA set to return to the Main Deck Alleyway to locate the origin of the smoke.

Around 1015, the 2/O informed the FA Platform on VHF Channel 17 of the fire on board. The FA Platform acknowledged the message and requested to be updated on the situation. No additional operational instructions were given. The 2/O then switched on the emergency fire pump from the Navigation Bridge.

Meanwhile, the C/E had arrived at the Muster Station and all crewmembers were accounted for and present. By that time, the Bridge Deck was also filled with smoke and smoke had started entering the Navigation Bridge Deck.

The C/E, 2/E, and 3/E then went to the Bow Thruster Room with the intention to start the emergency fire pump, which was already running at that time. The main fire pump was running as well and was in use at that moment. Two fire parties were prepared to enter the Accommodation; each party consisted of two crewmembers. The ETO reported that he was part of fire party A, together with the ASD3. The Oiler1 and one ASD formed fire party B.⁹ A total of four SCBA sets and firefighter's outfits were used; two were donned at the Muster Station and two were donned on the Navigation Bridge, including one used by the ETO. None of the crewmembers reported bringing a firefighter's outfit and SCBA to the Muster Station.¹⁰

When the ETO returned, he confirmed that smoke was pouring out of the Recreation Room and that the door was locked. The Steward and the C/O both possessed a key to the Recreation Room, but they were not carrying it at the

⁹ It could not be determined which ASD was part of fire party B.

¹⁰ During the investigation, it could not be determined precisely which of the SCBA sets and cylinders were used and if they were stored on board according to the locations on the Fire and Safety Plan. During the interviews conducted during the investigation, the Master referred to five available SCBA sets on board, two at the Navigation Bridge Deck and three near the Muster Station at the forecastle deck. The 2/O, responsible for maintenance of the SCBA sets, indicated that five SCBA sets were available, two on the Navigation Bridge Deck, one at the Muster Station, one near the entrance of the ECR, and one near the entrance of the Provision Store inside the Accommodation.

time. After obtaining a master key, the ASD3 entered the Main Deck Alleyway holding a fire extinguisher and opened the door of the Recreation Room, whereafter he discharged the fire extinguisher inside the Recreation Room. He could not observe any flames and had to retreat as the smoke was too dense. Next, the ETO and the ASD3 entered the Main Deck Alleyway together, holding a fire hose. They proceeded up to the Recreation Room, but the visibility was very poor due to the dense black smoke. They sprayed water in the alleyway and inside the Recreation Room, but they did not observe any flames.

The ETO reported that he and the ASD3 went out of the Main Deck Alleyway again, as the whistle of his SCBA set was sounding, indicating that he was running low on air. This was followed by fire party B who entered the Main Deck Alleyway. Fire party B only proceeded halfway along the Main Deck Alleyway as the smoke was too dense. For approximately 20 minutes, they sprayed water within the Longitudinal Main Deck Alleyway, whereafter they retreated. None of the fire parties had observed any flames inside the Recreation Room and consequently the source of the fire had not been located. Meanwhile, boundary cooling was ongoing on the forecastle deck and the fire flaps and vents of the Accommodation were closed by crewmembers who were not assisting the fire parties.

At 1030, the Master made a distress call on VHF Channel 16. The MRCC at the SAMSA Centre for Sea Watch and Response in Cape Town received a call from PetroSA advising that AM PRIDE had a fire on board, close to the FA Platform, and required immediate assistance. A MAYDAY relay was immediately requested via Telkom Maritime Services for vessels in the area to render assistance. Next, the FA Platform reported to AM PRIDE that the MRCC was sending assistance.

From 1030 onward, the Master observed that the smoke was still spreading through the Accommodation and that the source of the fire could not be located. He realized that the fire could not be contained by crewmembers on board. As smoke continued to enter the Navigation Bridge Deck, the 2/O left the Navigation Bridge and passed by the Muster Station to assist the other crewmembers on deck. The C/O asked him to get another SCBA set.

The 2/O recalled that there were five SCBA sets on board, two on the Navigation Bridge Deck, one at the Muster Station, one near the entrance of the ECR, and one near the entrance of the Provision Store inside the Accommodation. Four SCBAs were already in use. As the 2/O could not enter the Accommodation, it was not possible for him to get the remaining SCBA set. The 2/O did not proceed to the ECR, which was accessible. The 2/O recalled that there were eight spare cylinders for the SCBA sets on board, located inside the Store on the forecastle deck, inside the Accommodation. This area was filled with smoke and inaccessible at that time.

Shortly before 1100, the C/O reported to the Master that the fire was not under control. At 1100, the Master assessed that AM PRIDE was well clear of the FA Platform and ordered to shut down the engines and to close all the fire flaps and ventilation inlets of the entire Accommodation and Engine Room to smother the fire. Ten minutes later, the generators and the main engines were shut down, the ventilation in the Engine Room was switched off and the Bridge, Accommodation, and Engine Room were closed down. The crewmembers were informed to be prepared to abandon ship in case it was necessary. They mustered again and took along the EPIRB, SARTs, handheld GMDSS VHF's, and a bag with personal documents, ready to abandon ship if needed. The manhole of No. 2 C FOT remained open.

In the following minutes, AM PRIDE, without propulsion, fell beam-on to the wind, with the starboard side to windward and consequently started rolling heavily while being pushed downwind.

Shortly after mustering, a starboard side liferaft was launched for safety reasons, but due to bad weather the liferaft painter was cut by the razor wire that had been installed in preparation for AM PRIDE's planned operations off Nigeria, and the liferaft drifted clear of AM PRIDE. The FA Platform was informed about the loss of this liferaft.

Around 1200, the C/O was checking the heat on the bulkheads of the forecastle deck, when he noticed that the glass of the window of the 2-man Cabin, above the Recreation Room, on the starboard bow, had cracked and that the bulkhead was hot.

From 1210 to 1345, three bulk carriers¹¹ proceeded toward AM PRIDE to assist and through these vessels, the Master was able to keep in regular contact with the FA Platform.¹² At 1345, supply vessel MAMOLA MELODY, which had deviated to assist, arrived on scene with AM PRIDE and was requested by SAMSA to act as a safety standby vessel. At 1230, ETV UMKHUSELI departed Cape Town to render assistance and to connect to AM PRIDE.¹³

Meanwhile, the Master was informed by the FA Platform that a PetroSA helicopter that had been tasked with assisting in the evacuation of crewmembers on board AM PRIDE was restricted by weather conditions and would not be able to fly until approximately 1500.

At 1350, the exterior doors on the Navigation Bridge Deck were opened to clear the smoke inside. At 1410, the engine crew manually started the emergency generator and the emergency fire pump to continue firefighting operations. The Accommodation on the forecastle deck was opened to reach the hot bulkhead. Smoke was coming out, but no flames were visible.

The C/O entered the Accommodation equipped with a fire hose. No SCBA set was used. The C/O recalled that there were no more SCBA sets available. The used SCBA sets were not refilled, as the compressor that was located in front of the main winches on the main deck could not be connected to an electrical source. The C/O opened the doors of the 4-man Cabin and the 2-man Cabin on the starboard side and kept them open with a wedge. Other crewmembers on deck broke the cracked porthole of the 2-man Cabin and inserted a fire hose to fight the fire from outside through this porthole.

At 1540, the helicopter arrived and started to evacuate the first group of crewmembers. Eight crewmembers were hoisted one-by-one by means of a sling. The remaining crewmembers closed the access doors of the Accommodation and shut down the emergency generator and fire pump. It was observed that smoke was clearing because of the firefighting efforts, but the decision was made to abandon ship since the helicopter was in proximity to evacuate all the crewmembers and because of weather-related limitations on the helicopter's operations. Prior to evacuating AM PRIDE, it could not be determined if the fire was completely extinguished.

¹¹ Bulk carriers CAPTAIN GEORGE, THUNDERBIRD, and ANGELIC PEACE.

¹² Due to the operating range of the portable VHF, communications with the FA Platform could not be maintained.

¹³ In partnership with the Department of Transport and SAMSA, ETV UMKHUSELI, operated by African Marine Solutions Group (Pty) Ltd., responds to marine emergencies.

At 1600, the helicopter returned to AM PRIDE after disembarking the first eight crewmembers on the FA Platform, where they spent the night. The second group were brought ashore to George, South Africa, where they arrived at 1700.

MAMOLA MELODY stayed in the vicinity of the FA Platform to take action in case AM PRIDE, which was unmanned, started drifting towards the platform.

On 13 September 2024, at 0930 hours, the crewmembers who spent the night on board the FA Platform were transferred to Cape Town, South Africa. Around 1100, UMKHUSELI approached AM PRIDE and did not observe any smoke or fire. At 1500, a tow line from UMKHUSELI was connected to AM PRIDE and MAMOLA MELODY was dismissed from standby duty. SAMS ordered UMKHUSELI to keep AM PRIDE away from the FA Platform until the vessel could be safely towed to a port of refuge.

On 15 September 2024, a salvage team and marine firefighters boarded the towed and abandoned AM PRIDE to carry out a safety and stability assessment. They confirmed that the fire had been extinguished. It was reported that direct and severe fire damage was only observed to the main deck and forecastle deck levels inside the Accommodation. There were no signs of heat damage on the Navigation Bridge Deck, on the Bridge Deck, or in the Engine Room. At the time of boarding, no elevated temperatures or alarming gas levels were observed on board. After the assessment, AM PRIDE was permitted to be towed to Cape Town, South Africa where the vessel arrived on 21 September 2024.

Onboard Inspections

Since May 2024, weekly, monthly, and quarterly inspections were regularly conducted on board¹⁴ by crewmembers as required by the Company's SMS. The most recent inspection results before 12 September 2024 indicated that three EEBDs were due for hydrostatic testing and that the breathing air compressor was in an unsatisfactory condition. All other fire equipment, including fire detection systems, was observed to be in satisfactory condition. The inspection list did not contain an inventory of the inspected equipment and no references to equipment were included in the remarks that were made.

The inspection list, as designed by the Company, contained an inspection item related to fire doors equipped with remote closing systems. As no such remote systems were installed to the fire doors on board AM PRIDE, the inspection item was marked as not applicable. The verification that fire doors were kept closed and that no obstructions to the closure of the fire doors were in place was not mentioned in the general monthly safety inspection list for the different areas on board.¹⁵

Fire and Safety Plan

The Fire and Safety Plan indicated that six firefighter outfits were present on board, each containing one SCBA set and two cylinders. The indicated location of the firefighter outfits was as follows: two in the Wheelhouse, two on the main deck,¹⁶ one in the Store on the forecastle deck, and one in the Engine Room between the two main engines.

¹⁴ As per the Company's SMS, *Ship's Safety Training and Record Book*, Section 3 Weekly Checks and Section 4 Periodic Checks.

¹⁵ As per the Company's SMS, HSSEQ 54, *Monthly Safety Inspection*.

¹⁶ Two firefighter outfits, as indicated on the Fire and Safety Plan, were located in the Mess Room on the main deck.

The Muster Station was not indicated on the Fire and Safety Plan. The fast rescue boat and the four liferafts, two on each side of the vessel, were located on the forecastle deck. The two embarkation stations were also located on the forecastle deck (see Figure 4). There were two additional tender boats installed on the main deck, but these were not included on the vessel's Record of Equipment for Cargo Ship Safety¹⁷ and were not indicated on the Fire and Safety Plan.

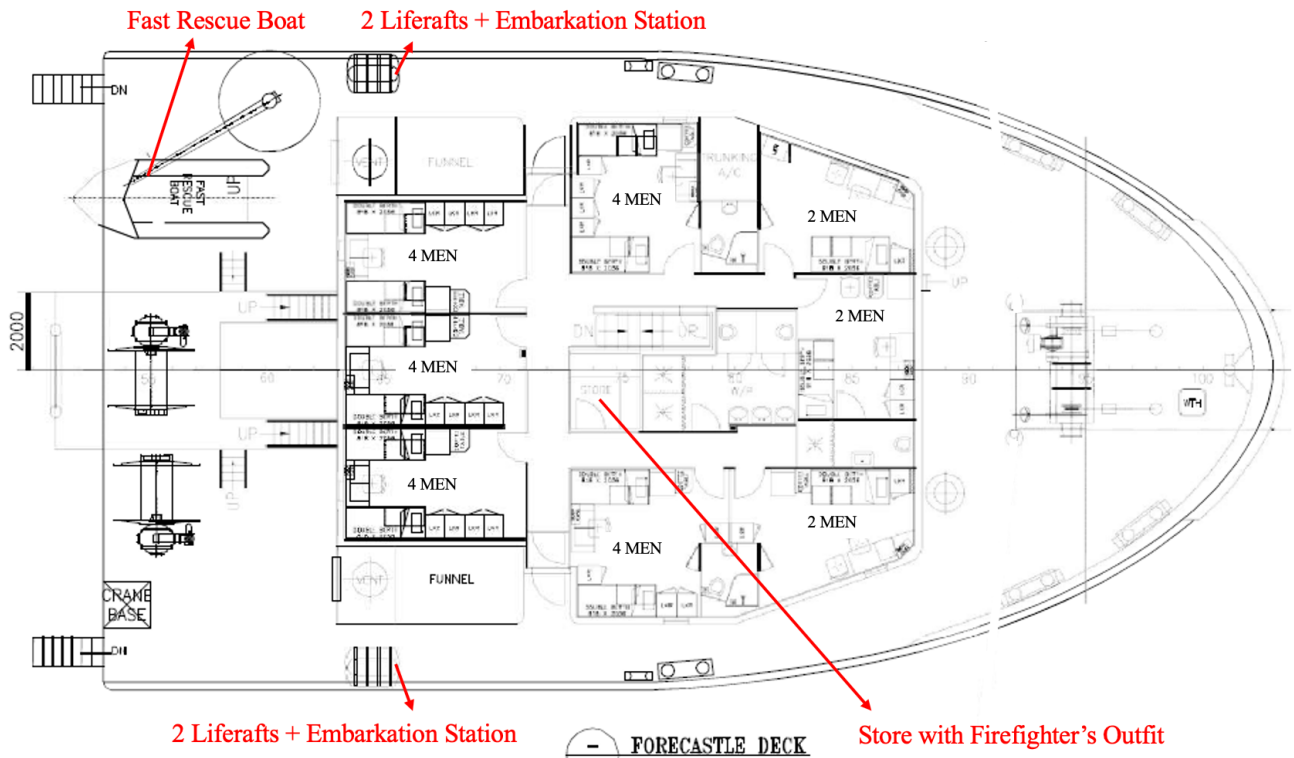


Figure 4: Forecastle deck.

The Emergency Muster List on board indicated that there were two Muster Stations. The primary Muster Station was located on the main deck, in front of the main winches. The secondary Muster Station was located on the forecastle deck.

Observations and Conclusions of a Fire Expert Upon Arrival in Cape Town

A third-party fire expert engaged by the Company boarded AM PRIDE upon arrival in Cape Town.¹⁸ The fire expert's report stated that the fire originated in the Recreation Room and spread throughout the Accommodation, consistent with the natural spreading of a fire, taking into account the open doors within the Accommodation.¹⁹ The recirculation of smoke through the ventilation system during the early stage of the fire, in combination with open doors, an open fire flap between the Accommodation and the Winch Room, and the unsealed service duct above the door leading to the Bow Thruster Room enhanced the spreading of smoke throughout the Accommodation, leading to increased smoke damage.

¹⁷ See Form E as part of the Cargo Ship Safety Equipment Certificate.

¹⁸ See Burgoyne's Report Concerning Fire Onboard AM PRIDE Whilst at Sea, Approx. 50 NM Off Mossel Bay, South Africa on 12 September 2024.

¹⁹ During the investigation, no information was available to identify the fire doors or any fire-resistant bulkheads.

The Recreation Room inside the Accommodation was used as a storage space containing plastic parts for the ongoing replacement of sanitary facilities in the Accommodation, cleaning liquids, aerosol cans, bottled drinking water, a mattress, a stock of safety shoes, stored electrical items such as a water cooler, windscreen wiper motors, spare CCTV cameras, and a television. An exact inventory was not kept by the crewmembers. The original furniture of the Recreation Room was still in place. Electrical equipment inside the Recreation Room was unplugged. The electrical sockets were not in use. The exact date of converting this space into a storage space could not be recalled, but most probably after the vessel was alongside on 17 December 2023.

Inside the Recreation Room, two side-by-side electrical sockets showed relatively intensive melting, including the ends of two copper cables.²⁰ There was no other damage observed inside the Recreation Room that indicated that such high temperatures were developed during the fire.

The melting of the copper ends could indicate that a tracking fault within one of the sockets occurred. A tracking fault is not load-dependent and occurs when a conductive path forms between two electrical conductors that should be held at differing voltages. Tracking faults can occur due to moisture ingress between exposed conductors, with the moisture introducing the conductive path. Alternatively, or in combination with moisture ingress, such faults can occur because of damaged insulation, which then results in the conductors no longer being electrically insulated from one another. If the resistance of the path formed is low enough, then a current can flow between the two conductors and the resistance inherent in the path leads to the generation of heat. That heat can be sufficient to ignite nearby combustible materials, and eventually affect high-melting point metals, leading to observable melting.²¹

Due to the heavy seas and the amount of equipment and liquids inside the Recreation Room, it is likely that some equipment damaged one of the sockets and/or combustible liquid got spilled over the socket, causing the tracking fault. In addition, the presence of combustible liquid or any equipment would provide fuel to start the fire once heat or a spark was created.

Additional possibilities regarding the origin and cause were considered but were determined to not be supported by the available evidence.

Crew

AM PRIDE had a complement of 15 crewmembers, three more than what was required by the Minimum Safe Manning Certificate issued by the Administrator. All involved seafarers held the appropriate Republic of the Marshall Islands-issued seafarer documentation for their positions.

As AM PRIDE was being prepared for deployment in Nigeria, with the exception of the Master, C/E, and 2/O, all of the crewmembers had joined AM PRIDE between 4–6 September 2024 in the port of Mossel Bay. The ETO had previously served on board when the vessel was under a different manager.

²⁰ Copper has a melting point of 1084.62°C. See <https://periodic-table.rsc.org/element/29/copper>.

²¹ As per the investigation conducted by the third-party fire expert.

RANK	TIME ON BOARD AM PRIDE	TIME IN RANK	TIME WITH COMPANY
Master	31 days	9 years	1 year
C/O	8 days	21 years	8 days
2/O	32 days	6 years	32 days
C/E	58 days	10 years	58 days
3/E	6 days	5 years	6 days
ETO	180 days	12 years	7 days
ASD3 ²²	8 days	12 years	8 days

All crewmembers received a shipboard familiarization on the day they signed onto the vessel. The familiarization checklists included items related to shipboard emergencies and fire and safety equipment, according to their rank on board.²³

AM PRIDE left the port of Mossel Bay in the afternoon on 7 September 2024. A combined fire and abandon ship drill was conducted on 9 September 2024. The fire drill involved a Laundry Room fire scenario. The fire drill report²⁴ contained a recommendation that “crew were asked to always make sure they are familiar with the vessel safety equipment and how to make proper use of them and they should be conversant with their duties and responsibility during emergencies.”

An MOB and fast rescue craft launch drill were conducted on 10 September 2024. All the drills were attended by all crewmembers.

All the crewmembers on board had received basic and/or advanced firefighting training and refresher training in accordance with their positions on board, meeting the specifications as required by the STCW Code, Sections A-VI/1, A-VI/3, and A-I/11.

The Administrator did not observe any indication that any crewmembers involved with this incident had failed to receive the amount of rest mandated by the STCW Code, Section A-VIII/1, paragraphs 2 and 3 and MLC, 2006, Regulation 2.3.

22 Crewmembers referenced the ASD3 as the Bosun, but he was indicated as ASD3 on the Crew List.

23 The following checklists were used as part of the Company’s SMS on board, NAV05 — Bridge Familiarization, OFFNAV 06 — Familiarization with Bridge Equipment Checklist, OFFSAF01 — Shipboard Familiarization, and HSSEQ11 — Shipboard Familiarization.

24 As part of the Company’s SMS on board, OFFSAF25, Drill Record Form.

PART 3: ANALYSIS

The following Analysis is based on the above Factual Information.

Recreation Room

The Recreation Room was used as a storage space on board. It could not be determined exactly why or when this occurred, but it seems that it was a practical solution to have some additional storage for equipment on board. There was no indication that possible fire hazards had been assessed as part of a management of change process before converting this room into a storage space.

Emergency Response

During the interviews conducted during the investigation, the crewmembers did not report any problems in response to the fire, however the reported actions indicated that there was insufficient coordination of firefighting activities and that crewmembers were not fully familiar with their task during a fire, or with the location of firefighting equipment, as evidenced by the following examples.

1. Upon the activation of the fire alarm panel, three crewmembers were deployed by the Master to locate the fire, but it was unclear if and how they reported their findings to the Master.
2. All crewmembers were accounted for at the Muster Station after the C/E arrived, more than 15 minutes after the fire alarm sounded.
3. It could not be recalled who participated in the fire entries and how many entries were made. It can be concluded that the fire teams tried to reach the Recreation Room, but there was no indication that there was a plan to contain and control the spread of the fire. Multiple doors remained in the open position.
4. Both the C/E and the ETO separately entered the AHU Room in the initial stage of the fire, both without SCBAs and were exposed to smoke, in order to switch off the ventilation and the electrical breaker. This action was assigned to the ETO according to the Emergency Muster List.
5. Ten SCBA sets and 25 cylinders were available on board. The equipment had not been collected in the initial stage of the fire and it could not be recalled where the used sets were taken. Crewmembers were not familiar with the amount of equipment and their location.
6. The ETO reported that he did not participate as a team member in the fire party as his cylinder was empty. The cylinder had been replaced by an empty cylinder, as no full cylinders were available. The air compressor could not be used as it could not be connected to an electrical source, no power was available, and the closest electrical supply reportedly was inside the Accommodation.
7. The ETO was not assigned to be part of a fire party according to the Emergency Muster List but volunteered to enter with an SCBA. He had not been relieved after he voluntarily entered.
8. Fire flaps were being closed by many crewmembers, although the Emergency Muster List indicated that it was the task of the 3/E to close the ventilation flaps and fire dampers.

9. There was no indication during the investigation that the checklist G5 — Fire in Accommodation-Offshore was used and followed. The 2/O stated in the interview that the hectic situation during the emergency response did not allow enough time to take any notes of the actions taken by crewmembers during the emergency response.
10. After the evacuation, the AHU Room was still mentioned by some of the crewmembers as one of the locations where the fire started, although the C/E and the ETO had already witnessed that this was not the case.

During the emergency, many firefighting actions were executed, but not always by the appointed persons and not in the described sequence,²⁵ leading to a loss of command and control and inadequate communication.

The crewmembers were experienced seafarers who had received firefighting training ashore and during drills on board. The execution of the firefighting effort did not reflect the skills and standards learned during training ashore.

The decision to abandon the vessel was prompted by the amount of smoke throughout the entire Accommodation due to delayed smoke boundary control and open door conditions on board, and the inability to detect the precise location of the fire. The absence of a clear overview and the absence of clear instructions for containing the smoke worsened the perception of how serious the fire was and consequently contributed to the decision to abandon the vessel.

When the main engines were shut down, AM PRIDE fell beam to the wind and seas, causing the vessel to roll heavily and waves to wash over the open main deck. The safest option to abandon the vessel was by helicopter, which had limited operational capability due to the weather. Once the evacuation of the vessel by helicopter had commenced, and the helicopter returned to evacuate the remaining crew, it was considered by the remaining crewmembers on board that it would be improbable that an evacuation would be possible at a later stage and thus the vessel was abandoned, without knowledge of the condition of the fire at the time.

General Awareness and Preparedness

The 2/O, who was responsible for the maintenance of firefighting equipment on board, along with the Master, both indicated different positions of the firefighter outfits on board. The indicated locations also differed from the locations on the Fire and Safety Plan. As it could not be recalled where the used outfits were taken from, no conclusion could be made if the equipment was stored in the positions indicated on the Fire and Safety Plan. The most recent annual inspection described 10 SCBA sets that were available on board. The weekly and monthly inspection lists did not include an inventory of the amount and location of the firefighter outfits and consequently it could not be determined if regular inspections were executed on all the firefighter outfits.

The Muster Station was not indicated on the Fire and Safety Plan. The Emergency Muster List indicated that the Muster Station was located on the main deck, in front of the main winches. The secondary Muster Station was the forecastle deck, near the fast rescue craft. The Drill Record Form²⁶ for the fire and abandon ship drill did not specify which Muster Station was used. The crewmembers indicated the forecastle deck as the primary Muster Station on board.

²⁵ As per the published Emergency Muster List.

²⁶ Drill Record Form OFFSAF25, as part of the SMS on board.

The Emergency Muster List was published in various locations on board, including on the Navigation Bridge, as indicated on the Fire and Safety Plan. The Emergency Muster List represented the duties of all the crewmembers in six different situations and was printed in A4 format, giving a dense impression and preventing a clear overview.

The Fire and Safety Plan did not indicate the fire zones and boundaries. An overview of the fire doors within the Accommodation could not be located during the investigation on board and thus it can be concluded that this information was not permanently exhibited.²⁷ Despite multiple changes in vessel registration and a change of classification society, no remark had been formulated by attending inspectors. Multiple doors, including fire doors, were left open when mustering at the Muster Station and during the firefighting. It was reported during the interviews that some doors, including the door from the Galley to the Mess, were kept open.²⁸ Regular safety inspections on board did not include verification that fire doors were tied or otherwise held open.

A familiarization checklist for each crewmember was completed and signed by the joining crewmember, the head of department, and the Master on the day the crewmembers joined the vessel. One fire drill was carried out on 9 September 2024 with a remark about familiarization with equipment and duties. The drill was conducted approximately 40 hours after leaving the port of Mossel Bay on 7 September 2024. The initial planning of drills and familiarization were aligned with the prescribed amount and intervals, to have a drill conducted within 24 hours when at least 25% of the crew has been replaced and to have received a proper familiarization upon joining a vessel.²⁹ The conducted safety investigation did not further look into the reason why the drill had not been executed within 24 hours. When 80% of the crewmembers are newly assigned to a vessel, standard joining familiarization alone may not be sufficient, and enhanced familiarization plus role-based emergency verification should be considered necessary to ensure collective emergency readiness. No indication was found during the investigation that additional precautions were taken to address an almost entirely new crew on board.

The above observations indicate that the crewmembers were not sufficiently familiar with equipment and emergency duties on board. Available information was not clear and unambiguous and did not contribute to a smooth familiarization process.

PART 4: CONCLUSIONS

The following Conclusions are based on the above Factual Information and Analysis and shall in no way create a presumption of blame or apportion liability.

1. Causal factors that contributed to this marine casualty included the:
 - (a) most likely movement and/or spillage of goods or liquids introduced moisture into the sockets on the portside bulkhead of the Recreation Room which caused an electrical tracking defect that ignited the contents of the Recreation Room; and

²⁷ As required by SOLAS II-2/15.2.4.1.

²⁸ See SOLAS Chapter II-2, *Construction — Fire Protection, Fire Detection and Fire Extinction* and Regulation 9, *Containment of Fire* gives an overview of Fire doors on board and indicate that the doors between the Galley and the Accommodation must be fire doors.

²⁹ See SOLAS II/2 Regulation – SOLAS III/19, *STCW* Section A-VI/1, and *ISM Code* Section 6.3.

(b) manual operation of the ventilation unit, and the position of the doors, including fire doors, left in the open position before and during the firefighting operations which facilitated the spread of smoke and complicated the localization and subsequent extinguishing of the fire.

2. Additional causal factors that may have contributed to this marine casualty included:

- (a) the limited familiarization of the crewmembers with the location of firefighting equipment and the limited practical emergency team integration made the firefighting activities less efficient, which was enabled by:
 - (i) unclear and incorrect information published on board, including Fire Control Plans; and
 - (ii) a familiarization process that did not consider an 80% crew change with newly assigned crewmembers;
- (b) the low accuracy of regular safety inspections, as open fire doors were tolerated on board and encompassed the condition of safety equipment that could not be verified against an inventory list; and
- (c) heavy seas which complicated the abandonment of the vessel and resulted in a limited evacuation window by helicopter, leading to a total abandonment of the vessel without knowledge of the condition of the fire at the time.

3. Additional issues that were identified but did not contribute to this very serious marine casualty included:

- (a) the lack of assessment made when converting the Recreation Room into a storage space; and
- (b) a liferaft got lost when the painter was cut by the installed razor wire.

PART 5: PREVENTIVE ACTIONS

In response to this very serious marine casualty, the Company has taken the following Preventive Actions:

1. A fleet-wide reinforcement that fire doors are to remain closed unless fitted with approved automatic hold-back arrangements.
2. Set-up a verification campaign for fire doors, self-closing devices, ventilation dampers, and smoke boundaries.
3. Review / update of Fire Control Plans, station bills, and safety information to reflect actual onboard arrangement.
4. Enhanced familiarization requirements following major crew changes, including emergency equipment walk-through and role verification.
5. Review of accommodation fire response procedures, including ventilation shutdown, SCBA control, and communications.
6. Implementation of management of change RA for any change of compartment use.
7. Fleet-wide lessons learned communication and focused drills on accommodation fire and smoke containment scenarios.

PART 6: RECOMMENDATIONS

The following Recommendations are based on the above Conclusions and in consideration of the Preventive Actions taken.

1. It is recommended that the Company:
 - (a) conduct a gap analysis to determine the maximum number of crew in rotation at any given time to ensure corporate knowledge of critical safety systems, roles, and responsibilities are maintained on board;
 - (b) ensure that information related to emergencies is accessible and user-friendly;
 - (c) ensure that Fire Control and Safety Plans comply with applicable regulations;
 - (d) evaluate and revise the regular inspections of shipboard equipment and locations to ensure that inspected equipment can be readily identified; and
 - (e) review and adapt the installation and handling of emergency response equipment to prevent that security measures restrict or hamper the availability and use of lifesaving equipment.

The Administrator's marine safety investigation is closed. It will be reopened if additional information is received that warrants further review.