The Commonwealth of the Bahamas

GRYF
IMO Number: 8818300
Official Number: 8000862

Report of the marine safety investigation into a fatality of a crew member on a roll-on, roll-off passenger ferry on 04th May 2019
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It should be noted that the Bahamas Merchant Shipping Act, Para 170 (2) requires officers of a ship involved in an accident to answer an Inspector’s questions fully and truly. If the contents of a report were subsequently submitted as evidence in court proceedings relating to an accident this could offend the principle that a person cannot be required to give evidence against themselves. The Bahamas Maritime Authority makes this report available to any interested individuals, organizations, agencies or States on the strict understanding that it will not be used as evidence in any legal proceedings anywhere in the world. You must re-use it accurately and not in a misleading context. Any material used must contain the title of the source publication and where we have identified any third-party copyright material you will need to obtain permission from the copyright holders concerned.

Date of Issue: 24th August 2020
Bahamas Maritime Authority
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United Kingdom

The Bahamas Maritime Authority
# CONTENTS

1. **Glossary of abbreviations and acronyms**

2. **Summary**

3. **Details of involved vessel(s) and other matters**

4. **Narrative of events**

5. **Analysis and discussion**

6. **Conclusions**

7. **Lesson Learned**

8. **Recommendations**

9. **Actions taken**
# 1 GLOSSARY OF ABBREVIATIONS AND ACRONYMS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB</td>
<td>Able Bodied Seaman</td>
</tr>
<tr>
<td>BMA</td>
<td>The Bahamas Maritime Authority</td>
</tr>
<tr>
<td>CCTV</td>
<td>Closed-Circuit Television</td>
</tr>
<tr>
<td>HGV</td>
<td>Heavy Goods Vehicle</td>
</tr>
<tr>
<td>kg</td>
<td>Kilograms</td>
</tr>
<tr>
<td>kW</td>
<td>Kilowatts</td>
</tr>
<tr>
<td>LPG</td>
<td>Liquified Petroleum Gas</td>
</tr>
<tr>
<td>mm</td>
<td>Millimetres</td>
</tr>
<tr>
<td>RO/RO</td>
<td>Roll-on/roll-off</td>
</tr>
<tr>
<td>UTC</td>
<td>Universal Time Coordinated</td>
</tr>
<tr>
<td>U.S.</td>
<td>The United States of America</td>
</tr>
<tr>
<td>UK</td>
<td>The United Kingdom</td>
</tr>
<tr>
<td>VHF</td>
<td>Very High Frequency</td>
</tr>
<tr>
<td>SMS</td>
<td>Safety Management System</td>
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</tbody>
</table>

All times noted in the report are in the style of the standard 24-hour clock without additional annotation and as local time in Poland, which was UTC +2.
2 SUMMARY

On 4th May 2019, after completing discharging operations, the roll-on, roll-off passenger ferry GRYF was at the port of Swinoujscie, Poland for a routine stopover. The Bosun and Deck Carpenter were using the forklift truck for routine work activities. During the day Fire Officer approached the Bosun, asking for the forklift truck.

The Bosun handed over the forklift truck to the Fire Officer in the afternoon at 1500 hours when the Bosun and rest of the vessel crew went for a coffee break except for on-duty Officer, AB, Fire Officer and the gangway Watchkeeper. Twenty minutes later a loud bang sound was heard as the forklift truck fell from car deck 3 on to the ramp on car deck 2.

The forklift truck was found overturned on the ramp on car deck 2 and the securing barrier on car deck 3 broken. The Able bodied seaman (AB) was in the forklift truck’s cabin and the Fire Officer was found unconscious near the basket, which was extended to the top of the mast. The incident resulted in the death of the Fire Officer and serious injuries to the AB.

It is not known what work activity the AB and Fire Officer were involved in using the forklift truck. There was no planned maintenance job or work activity scheduled on the day, which required the use of a forklift truck by the Fire Officer and AB.

This incident illustrates the consequence of inadequate controls for the use of the equipment and not adhering to the safety warnings provided within the equipment’s operational manual. It is crucial for a Company to implement effective administrative and access controls to ensure that only authorised and trained personnel can operate the equipment. This incident also highlights the importance of having a robust physical and visual safety barrier in place for the vehicle operators accessing the car deck onboard.

Contained within this report are the actions taken by the Company and a number of recommendations designed to prevent recurrence.

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1 The vessel had every second Saturday as a routine full-day stopover.
2 The ramp connected the car deck 3 with car deck 2 for the movement of vehicles between the two decks. Referred as trailer ramp in the vessel’s GA plan.

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3 DETAILS OF INVOLVED VESSEL(s) AND OTHER MATTERS

3.1 Details of the vessel

Gryf is roll-on, roll-off passenger ferry built in Landskrona, Sweden in 1990.

The vessel had the following principal particulars:

- Call sign: C6TV9
- IMO number: 8818300
- MMSI number: 311 794 000
- Built: 01 January 1990
- Length overall: 157.9 metres
- Breadth: 24 metres
- Depth moulded: 16.3 metres
- Propulsion power: 7920 kW
- Gross registered tonnage: 18653 tonnes
- Net registered tonnage: 5595 tonnes
- Type: Passenger/Ro-ro
- Classification Society: Polski Rejestr Statkow

At the time of the incident, the vessel was owned by the GRYF Line Limited and managed by Polska Zegluga Morska P.P.
3.2 Vessel Certification

GRYF was first registered with the Bahamas Maritime Authority (BMA) in 2004 and was classed with Polski Rejestr Statkow Classification Society. At the time of the incident, the vessel complied with all statutory and international requirements and certification.
The vessel was subjected to a Bahamas Maritime Authority Annual Inspection at the Port of Swinoujscie, Poland, on 01st December 2018. Three deficiencies were identified related to provision room alarm out of order, breathing apparatus being inoperative during routine fire drill test and one mooring rope found torn/worn. All three deficiencies were rectified during the inspection.

The vessel had a Port State Control Inspection at the Port of Swinoujscie, Poland, on 10th April 2019, with one deficiency related to watertight doors.

3.3 Vessel’s capacity and trading pattern

The vessel had three loading decks and a capacity of around 100 freight units. The vessel had 69 cabins, which could accommodate a total of 142 passengers.

Since 2007, the vessel’s trading pattern had been between the port of Swinoujscie, Poland and the port of Trelleborg, Sweden.

[Figure 2: Vessel’s trading pattern (Source: Unity line website)]

At the time of the incident, the vessel was at port of Swinoujscie, Poland.

3.5 Crew members

The vessel had 46 crew members on board at the time of the incident, the crew worked on a two weeks on/two weeks off rotation.

The Fire Officer was a 59-year-old Polish national who held a Rating as Able Seafarer Deck Certificate³ issued by the maritime office of Szczecin under the authority of the Government of the Republic of Poland. He had a total of 14-years of seagoing experience as Fire Officer and was working with the present Company⁴ since the beginning of his seagoing career. He had been at the same rank as Fire Officer on this vessel for the last 13 years and 8 months.

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³ Issued in accordance with the provision of regulation II/5 of the Standards of Training, Certification and Watchkeeping (STCW) for mandatory minimum requirements for certification of Ratings as Able seafarer deck.
⁴ As per the ISM code section 1.1.2 "Company" means the Owner of the ship or any other organization or person such as the Manager, or the Bareboat Charterer, who has assumed the responsibility for operation of the ship from the Shipowner and who on assuming such responsibility has agreed to take over all the duties and responsibility imposed by the Code.
The Able Seaman (AB), was a 48-year-old Polish national and held a Rating as Able Seafarer Deck Certificate issued by the maritime office of Szczecin under the authority of the Government of the Republic of Poland. He had a total of 23 years of seagoing experience (9 years he served as an Ordinary Seaman and 14 years as an AB) and was working with the present Company since the beginning of his seagoing career. He was working as AB on this vessel for the last 7 years and 8 months.
4 NARRATIVE OF EVENTS

On 4th May 2019, at 0515 hours, the vessel moored at the port of Swinoujscie, Poland. The discharging operation commenced at 0520 hours and was completed at 0640 hours. The vessel had a routine stopover planned at the port and the estimated time of departure was 0130 hours on 5th May 2019.

During the morning of 4th May 2019, the Bosun was using the forklift truck for a routine job of moving tools and small containers. Later the Deck Carpenter was also using the forklift truck to carry greasing equipment. The Fire Officer approached the Bosun during the day, asking for the forklift truck.

At 1500 hours, the Bosun handed over the forklift truck to the Fire officer with the keys connected to the truck, on car deck 2 and went for a coffee break. All the vessel crew went for a coffee break, except for the on-duty Officer, Fire Officer, on-duty AB and gangway Watchkeeper stationed at the loading and discharging ramp at the bow of the vessel.

At 1520 hours, a loud bang sound was heard on the ship.

On hearing the sound, the engine Storekeeper who was at the ship’s gym and crew in the engine room below the car deck 2, went towards the car deck 2 to identify the source of the sound. Subsequently, the gangway watchkeeper arrived in the vicinity. The crew members found that an overturned forklift truck was on the ramp with on-duty AB inside the forklift cabin. The securing barrier on car deck 3 was found broken. It was concluded that the forklift truck had fallen from car deck 3 on to car deck 2.

The Engine Storekeeper observed some blood coming from the forward side of the forklift and rushed towards the source. The Fire Officer was found lying unconscious near the basket of the forklift truck (figure 3).
Figure 3: Location of the AB and Fire Officer after the incident (source: Polska Zegluga Morska P.P.)

Figure 4: Broken securing barrier after the incident as viewed from Deck 3 (source: Polska Zegluga Morska P.P.)
The Gangway Watchkeeper notified the bridge on VHF radio about the incident and informed them that an ambulance was required. The Chief Officer heard the communication on VHF radio and called the ambulance through the Company’s terminal office. He sent the duty Officer from bridge to the vicinity of the incident. He subsequently informed the Master about the incident and went to the scene of the incident himself.

First aid was commenced by the crew members, on-duty Officer and Chief Officer who arrived at the scene. The ambulance arrived at the vicinity at 1530 hours and the paramedics attended the injured.

At 1615 hours, the Fire Officer was declared deceased by the paramedics.

At 1652 hours, the injured AB was taken to a hospital in Szczecin, Poland, in the ambulance.

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5  ANALYSIS AND DISCUSSION

5.1 Forklift truck

The forklift truck onboard was a 2004 built Nissan forklift with a maximum lifting capacity of 2500 kg.

<table>
<thead>
<tr>
<th>Brand</th>
<th>NISSAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model/type</td>
<td>UD02A25RQ</td>
</tr>
<tr>
<td>Year of production</td>
<td>2004</td>
</tr>
<tr>
<td>Type</td>
<td>Forklift on wheels</td>
</tr>
<tr>
<td>Chassis/body no</td>
<td>UD02E703783</td>
</tr>
<tr>
<td>Type of engine/type of fuel</td>
<td>ZS/LPG</td>
</tr>
<tr>
<td>Engine power/capacity</td>
<td>30 kW</td>
</tr>
<tr>
<td>Number of seats</td>
<td>1</td>
</tr>
<tr>
<td>Number of wheels/axles</td>
<td>4/2</td>
</tr>
<tr>
<td>Type of mast</td>
<td>2W-330</td>
</tr>
<tr>
<td>Maximum lifting height</td>
<td>3300 mm</td>
</tr>
<tr>
<td>Maximum lifting capacity</td>
<td>2500 kg</td>
</tr>
<tr>
<td>Curb weight</td>
<td>3830 kg</td>
</tr>
</tbody>
</table>

Table 1: Technical specifications of the forklift

The forklift truck was usually used by the Boson and Carpenter for the carriage of material and equipment related to daily routine work such as paint containers, greasing equipment, tools, etc. The Fire Officer also used the forklift truck to carry the breathing apparatus' bottles for refilling. However, this happened infrequently.

A forklift truck is a specialised industrial vehicle with power-operated forks at the front that can be raised and lowered to lift or move cargo on pallets, in boxes, crates and other containers. Forklift trucks are often used in warehouses and port terminals for short-distance transfer of cargo, depending on the type of forklift truck.

Ashore, a forklift truck, is one of the most commonly used industrial vehicles, but it is also inherently considered a high-risk vehicle. Various serious injuries and fatalities across the globe had been recorded associated with the use of forklift trucks. As per the U.S. Bureau of Labour Statistics\(^5\), from 2011 to 2017, 614 workers lost their lives in forklift truck-related incidents and more than 7,000 nonfatal injuries with days away from work occurred every year. As per the British Safety Council\(^6\), 25% of workplace transport injuries are a direct result of forklift truck incidents and around 1,300 UK employees are hospitalised each year with serious injuries following forklift incidents.

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The Bahamas Maritime Authority
The basket attached to the forklift truck was not designed to carry any personnel. The vessel had a designated basket to carry personnel, but it was not in operation or used by any crew member onboard as per Chief Officer’s instructions. The forklift truck onboard was not used for any specialised work activity that could not be achieved by any other alternate less hazardous means of transport. For any other work activity requiring access to height, a dedicated scaffolding was used and in case it was not sufficient, shore equipment such as cherry picker was used.

5.2 Inadequate use of forklift truck

The forklift truck was found on the ramp turned over with the forks facing upward. The securing barrier on deck 3 was broken, indicating that the forklift had fallen from deck 3 whilst reversing. The basket was attached to the forks and the forks were extended to the top of forklift mast.

![Forklift location after the incident](source: Polska Zegluga Morska P.P.)

It is not known what work activity the Fire Officer and the AB were involved in before the incident. There was no planned maintenance job or work activity scheduled for that day which required the Fire Officer to use the forklift truck. The crew members on board (including the Master, Chief Officer and Bosun) were not aware of the work activity the Fire Officer and the AB were involved in and nobody witnessed the incident. The vessel did not have any CCTV cameras in the cargo space facing the ramp or in the vicinity of the incident. There were no special tools found in or near the forklift truck, indicating any specialised work activity being carried out by the crew members.

The injured AB was in the hospital under a medically induced coma for his recovery and was unable to provide any testimony to the BMA investigation team due to his
health condition. The BMA have continued to seek a statement from the AB which to date has not been forthcoming.

On 17th December 2019 and 24th February 2020, the Company’s representatives attended the injured AB at the hospital in Szczecin, while he was undergoing rehabilitation. He did not remember anything prior to the incident or the work activity he was involved in. However, he did remember that he had driven the forklift truck before, while working with the Fire Officer. Further, considering the location, where the Fire Officer was found post-incident, it was concluded by the investigation team, that the forklift truck was operated with the Fire Officer in the basket and the mast extended to the top.

This type\(^7\) of forklift truck usually has a three-point suspension system, two on the front tires and one on the centre of the rear axle. While operating the forklift, if the combined centre of gravity of the load being carried and the forklift truck is within the safe region of these three suspension points, the forklift remains stable. Further, using a forklift with the load raised up in the mast, shifts the combined centre of gravity of the forklift upwards. Which reduces the safe manoeuvrability, as the safe region narrows down with height, making it more likely for the combined centre of gravity to move out of the safe region while operating or manoeuvring the forklift truck, resulting in tipping over or overturning.

The forklift truck operation manual included the safety warning with regards to the load to be carried at the lowest possible height and to lift the load only when storing at height.

![Figure 6: Extract from forklift truck operational manual](image)

The basket which was attached to the forks of the forklift was not designed to transport personnel. The vessel had a designated forklift basket for carrying personnel onboard (figure 7).

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\(^7\) Having a counterbalanced weight and powered engine
The warning on the designated personnel carriage basket stated that the forklift truck should not be driven with a raised platform. Not only were the crew members using an incorrect basket while driving the forklift truck, the basket was raised to the top of the forklift mast with a person in it, which was contrary to both safety warnings on the designated basket for personnel carriage and the operational manual of the forklift truck.

5.3 Ramp, securing barriers and hazard identification

The ramp’s position was changed at each port for the movement of vehicles between the two decks for the loading/discharging operation. At the port of Trelleborg, Sweden, the ramp was positioned to connect forward of car deck 3 to the car deck 2 (figure 8) and at the port of Swinoujscie, Poland, it was positioned to connect aft of car deck 3 to car deck 2 (figure 9).
On the day of the incident, the vessel was at Swinoujscie, Poland and the ramp was positioned to connect aft of car deck 3 to car deck 2 (figure 9).

The ramp opening on car deck 3 had manually operated securing barriers forward and aft (figure 10).

After the incident, the securing barrier on car deck 3 was found broken as the forklift fell from car deck 3 on to the ramp on car deck 2. The barriers were made of steel tubes and were not designed to take any heavy load or impact of the moving vehicles.

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8 Image is only for illustration purpose and not as per scale.
9 Image is only for illustration purpose and not as per scale.
The securing barriers had a yellow and black hazard tape covering a portion of the barriers. The deckhead of car deck 3 also had a portion of yellow and black hazard tape and red arrow signage (figure 12). However, the tape and signage did not signify any information or highlight the risk related potential fall from the ramp opening to drivers operating vehicles on car deck 3. There were no signs to indicate the location of the ramp opening on the car deck.

The vessel usually carried cars, trailers and heavy goods vehicles (HGV) onboard. Due to the location of the portions of hazard tape on securing barriers and the deckhead, it was highly unlikely that drivers were able to see or identify any hazards,
especially while reversing vehicles. The drivers were guided by the deck crew during the loading and discharging operation. However, there were no clear safety signs in the vicinity of car decks or a pictogram for the drivers to identify the potential hazard of fall due to ramp opening while operating the vehicles.

There were no documented risk assessments for the ramp operation or the forklift operation in Company’s Safety Management System (SMS). The International Management Code for the safe operation of ships and for pollution prevention (International Safety Management (ISM) Code) section 1.2.2.2 requires ‘Safety-management objectives of the Company should, inter alia; assess all identified risks to its ships, personnel and the environment and establish appropriate safeguards.’ The risk assessment is a tool to identify the potential hazards to establish appropriate safeguards to eliminate the risks. The outcome of an adequate risk assessment can be used to identify the hazards in the vicinity of the ramp operation and accordingly implement the appropriate safeguards to mitigate the risks.

5.4 Administrative and access control

The vessel’s crew maintained a log onboard to control the access to the forklift truck. The log and keys of the truck were kept in the cargo office located near the stern door on Deck 2. The crew member had to make an entry in the log and fill in the date, user’s rank/department, reason of use and comments before accessing the forklift truck.

On the day of the incident, the Bosun had made an entry in the log under his name and was using the forklift truck in the morning. The Deck Carpenter also made an entry in the log and was using the forklift truck in the afternoon. The Fire Officer asked the Bosun for the forklift truck during the day. Nobody from the crew, including the Chief Officer and Bosun, were aware of the work activity the Fire Officer and AB were intending to accomplish using the forklift. In the afternoon, the Bosun handed over the forklift truck to the Fire Officer with the keys connected to the forklift truck. The log was not updated by the Fire Officer or by the AB before operating the forklift truck.

The International Safety Management (ISM) code section 7, Shipboard Operations\textsuperscript{10}, requires the Company to establish procedures for key shipboard operations concerning the safety of personnel on board. It requires various tasks to be defined and assigned to qualified personnel. The Company’s SMS had a procedure for the lifting devices, which included the maintenance, repairs and inspection requirements for the forklift trucks. It included the responsibilities of the Chief Officer and Chief Engineer in ensuring proper operation, maintenance, readiness, and technical efficiency of these devices. The Company’s SMS also had a requirement for the ship crew to comply with the ‘Code of Practices - Accident Prevention on Board Ship At Sea and in Port’\textsuperscript{11}. The code included the safety instructions for the use of lifting and

\textsuperscript{10} ISM code section 7 states: The Company should establish procedures, plans and instructions, including checklists as appropriate, for key shipboard operations concerning the safety of the personnel, ship and protection of the environment. The various tasks should be defined and assigned to qualified personnel.

\textsuperscript{11} Two copies of the code were available onboard, one with the Master and one in the location accessible to the crew.
transformation vehicles. The safety instructions included that only a competent person shall operate such vehicles and only in calm waters. However, there was no dedicated procedure in Company’s SMS specific for safe forklift operation, including the requirements for access controls of the forklift operations. Even though the vessel had implemented the practice to maintain the log for the crew accessing the forklift truck, this practice was not followed by the Fire Officer or by the AB and was not implemented effectively on the day of the incident.

The deck department onboard had three authorised crew members who held a license\textsuperscript{12} to operate the forklift truck (table 2). However, at the time of the incident, the forklift truck was being operated by the AB, who did not have a license to operate the forklift truck.

\begin{table}[h]
\begin{tabular}{|l|c|}
\hline
Rank & Year of issue \\
\hline
Fire Officer & 2011 \\
Bosun & 2006 \\
Deck Carpenter & 2007/2008 \\
\hline
\end{tabular}
\caption{Ranks and year the forklift license was issued}
\end{table}

The forklift truck operational manual included the safety warnings stating that the forklift truck should be operated only by authorised and trained personnel.

\begin{itemize}
\item \textbf{English translation:} The forklift truck can be operated by an authorized operator.
\item \textbf{English translation:} The operator must be trained and authorized to drive a forklift truck. Must be familiar with the techniques and principles of safe forklift handling.
\end{itemize}

\textsuperscript{12} All three licences for operating motorized forklift truck were issued by Vocational Training Center, Swinoujscie Rybaki, Poland.
The AB operating the forklift truck did not have a licence to operate the truck and was not authorised to operate the truck. This was contrary to the safety warning in the forklift truck operational manual. Further, there were no dedicated procedures in the Company’s SMS outlining the crew member’s qualification or experience requirements for operating a forklift truck onboard.

5.5 Forensic analyses

After the incident, the forklift truck was taken under the custody of local police authorities in Świnoujście, Poland. A forensic analysis was conducted to identify the forklift truck’s technical condition before the incident and if it had any influence on the incident.

The forensic analysis report concluded that the forklift truck was technically operational prior to the incident. The damages observed on the forklift truck were caused as a result of the incident.

5.6 Other identified matters (non-contributory to the incident)

This designated basket for personnel carriage had a warning sign on it with the text written in Polish only. The Bahamas Merchant Shipping Act, Paragraph 76 (2) states: ‘All written signs displayed on board Bahamian ships shall be in the English language with, if it is considered necessary by the Master, a foreign language version appended thereto.’. Even though all the crew members had the knowledge of the Polish language, the warning sign was not in compliance with the Bahamas Merchant Shipping Act requirement.

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6 CONCLUSIONS

The forklift truck was found overturned on the ramp on car deck 2 after falling from car deck 3. The AB was operating the forklift truck while the Fire Officer was in the basket attached to the forks and extended to the top of the forklift truck’s mast. The incident resulted in the fatality of the Fire Officer and serious injuries to the AB.

The securing barriers at the ramp on car deck 3 were made of steel tubes and were not designed to take the impact of moving vehicles on the car deck.

The vicinity of the ramp opening on the car deck 3 did not have clear safety signs to provide any guidance to the vehicle operators.

There were no documented risk assessments onboard for the ramp operation or forklift operation.

The basket on the forklift was not designed to carry personnel in it. Further, the forklift truck’s operational manual included the safety warnings not to drive the truck with load extended at the height of the forklift mast. However, the crew members did not adhere to this safety warning.

The vessel had practices of keeping the keys of the forklift at the storeroom and maintaining a log to control access to the forklift truck. However, these practices were not followed or implemented effectively on the day of incident. The keys of the truck were connected to the forklift truck when Bosun handed it over to the Fire Officer. Further, the log was not updated by the Fire Officer or by the AB before accessing the forklift truck. None of the crew members, including the Chief Officer and Bosun, were aware of the work activity the Fire Officer and AB were involved in. There was no planned work activity scheduled that day which required the Fire Officer to use the forklift truck.

The AB operating the forklift truck did not have a forklift truck license. This was also contrary to the safety warnings in the forklift truck’s operational manual, stating that only authorised and trained personnel shall operate the forklift truck.

There was no dedicated procedure in the Company’s SMS, providing requirements for the administrative and access control for the safe forklift operation onboard. Also, there was no specific procedure for maintaining, recording or managing crew member’s qualification and experience requirements for operating a forklift truck.

The forensic analysis of the forklift truck concluded that it did not have technical issues prior to the incident.

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Forklift truck operation is an inherently a high-risk operation. Even though there is no restriction for the vessel to carry a forklift truck to transfer material and equipment onboard, a less hazardous mode of transport can be identified to substitute the forklift truck onboard and eliminate the risk involved in the operation.

It is important to have robust physical and visual safety barriers in place for the vehicle operators to identify and mitigate the risk of a fall from ramp opening on car deck 3.

Inadequately operating equipment and not adhering to the manufacturer’s safety warnings can lead to fatal consequences.

Effective administrative and access controls must be maintained to ensure that only authorised and trained personal can operate such equipment.

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8 RECOMMENDATIONS

Recommendation for the Company:

Conduct a risk assessment for the ramp operation and a comprehensive review of the vicinity of the ramp openings to ensure robust physical barriers and adequate visible safety signs are in place for the prevention of a fall from height.

Consider conducting a holistic review of the utility of a forklift truck onboard and identifying a safe substitute mode of transport for material and equipment handling.

Develop and familiarize the crew members with procedures outlining:

- The requirements for safe operation and effective implementation of administrative and access controls for the forklift truck onboard.
- Crew member’s qualification and experience requirements for operating a forklift truck onboard.

Review all the written signs onboard and ensure compliance with the Bahamas Merchant Shipping Act.

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9 ACTIONS TAKEN

Actions taken by Polska Żeglugą Morska P.P post incident:

The Company had suspended the use of forklift trucks across the fleet until the new safety procedures were introduced.

The Company implemented new safety procedures, including the below requirements:

- To operate the forklift truck in accordance with manufacturer's instruction, by the ship crew holding an appropriate license and permission issued by the Master.

- The officer on the watch shall maintains a log called "forklift workbook" with the names of the crew accessing the forklift truck. The crew is given the key after updating the log and once the permission is obtained from the relevant head of department, who is aware of the activity involving the use of the forklift truck.

- The forklift operator must enter his name in the "forklift workbook" and before using the forklift the operator must check the condition of forklift truck as per Company's procedure and on completion of the work the operator shall write comments in the "forklift workbook" in case of any technical issues were identified.

- The heads of the departments of the crew using the forklift truck have direct responsibility for the safe organization of their work.

- The area in which the forklift truck is used must be properly marked and secured (properly protected warning plate, ramps and wickets).

- The forklift truck should not be handed over to anyone without authorization and permission issued by the Master.

- It is prohibited to work at height using the forklift.

- The operator of the forklift truck must have a correct PPE, including safety gloves, work shoes and a safety helmet.

The design works are in progress to replace the railings on car deck 3 with heavy-duty barriers to provide a resistance against accidentally rolling lorries.

The entire crew across the fleet was given a safety lecture by Designated Person Ashore and HSE Manager to follow the Company's procedures and instructions.