

**ST VINCENT AND THE GRENADINES
MARITIME INVESTIGATION UNIT**

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Report No 1/2019

Very Serious Casualty

m.v. YALIKOY Official No 12202, IMO No 9166510, Loss of life of Chief Mate on the 08.10.2019 at arrival Sagunto, Spain

The purpose of investigating an accident is to determine the circumstances and causes with the aim of improving the safety of life at sea and to avoid accidents in the future. It is not the purpose to apportion liability, nor, except so far as is necessary, to apportion blame.

This Report is not written with liability in mind and is not intended to be used in Court for the purpose of litigation. It endeavours to identify and analyse the relevant safety issues pertaining to the specific accident, and to make recommendations aimed at preventing similar occurrences.

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SECTION 1 – FACTUAL INFORMATION

1.1 Introduction and background

A safety investigation was conducted on mv. YALIKOY on the 12th, 13th and 14th October 2019 at Port of Castellon de la Plana, Spain.

Whilst the vessel was approaching breakwater off Segundo, Spain there was a casualty which resulted in the death of the Chief Mate and the Boatswain's injury.

The Master reported that the tugboat's messenger line snapped and hit both the Chief Mate, who died, and the Boatswain, who suffered injuries. He advised that a police investigation was in progress at the time of our attendance on board on the vessel

1.2 Particulars of the vessel

Name: YALIKOY
Type: General Cargo Ship
IMO No: 9166510
Flag: St. Vincent and The Grenadines
Port of Registry: Kingstown
Off No: 12202
Call Sign: J8B5729
Owner: BLACKSEA SHIPPING TRADING LTD
Manager: WHITE SEAGULL SHIPPING LTD.
Class Society: BUREAU VERITAS
DWT: 5005.62
GRT: 2950
NT:1807
Length:84.54 m
Breadth:14.85 m
Moulded Depth:7.50 m
Year of built: 1999
Builder: Gisan Shipyard, Istanbul, Turkey

1.3 Description of events (narrative)

MV YALIKOY commenced its voyage in Iskenderun, Turkey, where she arrived on the 28.09.2019 at 13:00 LT. The vessel began loading steel coils at 14:14 LT. On the 29.10.2019 at 18:00 the loading was complete. The vessel was loaded, with 4347.34 MT of steel coils and sailed towards Sagunto, Spain.

Draft on departure Forward 5.95 m, Aft 6.20 m, Mean 6.08 m.
Consumables at departure:
Diesel oil 56.28, Lub Oil 1160kg and Fresh Water 50 MT.

The change of command occurred at Iskenderun where the Master, joined the vessel on the 29.09.2019, early in the morning.

Estimated arrival of the pilot station Sagunto was the 08.10.2019 at 07:30 local time (LT) and agents/pilots were informed accordingly.

On the 08.10.2019 at 06:00 LT, end of sea passage was recorded. The Chief Mate, who was on the bridge, called the Master who took control of the vessel at 05:00 LT. Weather and sea conditions were fine without wind or swell. According to the NAVTEX (west of Cabrera): "*variable 1 to 3 becoming southerly 2 to 4 in the morning then backing S or SE 3 or 4 at end. Slight, locally moderate in East till morning*".

Draft on arrival pilot station: Forward 5.81m, Aft 6.11m.

On the 08.10.2019 at 07:35 LT, the Pilot boarded the vessel using the pilot ladder on the starboard side. Pilot was accompanied by the Deck Officer as per usual procedure.

Immediately upon boarding, the Master discussed the berthing details and manoeuvring with the Pilot.

The Master and the Pilot were on the navigation bridge just before the accident occurred. The Chief Mate, Boatswain and Able Seafarer Deck (AB) were on the forecastle deck, and, the Second Mate (Deck Officer) and Ordinary Seaman were on the poop deck ready for berthing operation.

The Pilot advised the Master to fasten the tugboat VB Vigor through the central fairlead and the Master instructed the Chief Mate using portable VHF at 07:40 LT accordingly. The Chief Mate did not confirm that the tug had been fastened, and at 07:48, the Master called him again. The Chief Mate did not reply. The Master thought he was helping the ratings fasten the tug, and waited one minute before calling him, but to no avail.

The Pilot inquired as to the current situation since the vessel was approaching the breakwater. The Master was unable to see what was happening on the forecastle deck since it was still dark.

Shortly thereafter, the Master spotted the AB running from the port side towards the Aft, shouting in panic, the `` *Chief Mate is dead* `.`
After about thirty seconds, he saw the Boatswain running from the starboard side towards the aft part of the vessel shouting the same.

Master contacted the Deck Officer who was standing by on the Aft with two other crewmembers and directed him to forecandle deck to verify what had happened. The Deck Officer confirmed that the Chief Mate was dead without pulse.
The accident occurred at approximately 07:54 LT.

The Master advised the Pilot, who in turn, called an ambulance at 07:55 LT. The Master turned the pitch angle of the propeller to neutral. The Pilot informed the Master of what had occurred.
The Master, with the cooperation of the Pilot decided to fasten the tug boat through the starboard fairlead. The Rating that came from the poop deck passed the heaving line to the tug. The tugboat was fastened at 08:15 LT through the starboard fairlead. The tug's rope was secured on the ship's bollard.

The rest of the manoeuvre went smoothly. First line ashore was given at 08:10 LT. The vessel was berthed alongside El Muelle Norte at 08:30 LT.

The vessel was finally berthed at Segundo with port side alongside. Immediately after berthing, the paramedics came on board and confirmed the Chief Mate's death.

The Police boarded the vessel soon after, and the body of the Chef Mate was sent ashore.

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Picture No 1,
Overall view

2. Position where the messenger line from the tugboat was taken through centre fairlead, 3. Position where the AB communicated the accident; 4. Position where the tugboat was fastened from the starboard fairlead

1.4 Interview with Master and deck crew present on the forecastle deck at the time of casualty.

The interviews were made with the crew who were present when the casualty occurred.

1.4.1 Interview with the Master

Master began sea career in 1977. He commanded general cargo vessels and tankers since 1985. He joined the Company four years ago. He was previously employed on mv Yalikoy. This was his second command on mv Yalikoy.

He confirmed that the deceased Chief Mate joined the Company a year ago as a Chief Mate and joined the vessel on the 06.09.2019. He previously worked in the Navy and then retired. He was the holder of a Chief Mate Certificate of Competency limited to below 3000 GT. This was his second employment with the Company. The first vessel was a cargo ship of similar size. The Master described him as a good and reliable Officer.

The Master confirmed that the exchange with the Pilot at arrival at Sagunto Pilot Station was normal and in accordance with procedure. The Master/Pilot exchange card was perused and signed.

The Master was interrogated on the berthing and fastening tug procedure and, whether it was followed. He referenced the arrival procedure in the Safety Management System.

According to the Master and crew from forecastle deck, the Chief Mate was located on starboard mooring winch controlling position at the time of accident. He further stated that the Chief Mate was not visible on the forecastle deck due to darkness. The Master confirmed that this was unusual practice, and had been decided on the spot by the Chief Mate, without consulting him. According to normal practice, the Chief Mate should have been in a position where he could monitor the overall operation and maintain the VHF connection with the navigation bridge during the tugboat fastening/berthing/un-berthing or anchoring. He further pointed out, that in the past, he did not control the mooring winch and that this role was handled by other crewmembers. He confirmed that no briefing took place before arrival to Pilot Station.

The Master described central fairlead as small compared to the tug's rope which should have been fastened. He confirmed he was not aware of the relatively small inner size of the fairlead that could have caused problems when fastening tugs. He confirmed that the Chief Mate did not raise any concerns prior heaving the tug's messenger line and tug's line.

He also confirmed that no one raised this issue in the past, although the Company has been operating the vessel for more than two years. Since no specific risk was previously identified, this was not taken into account when assessing the tug fastening procedure through the centre fairlead. This issue was not addressed in the Master's review and Safety Minutes of Meeting.

Master was questioned about the portion of the messenger line which remained on board after snapping. He responded that rope was not on board since P&I correspondent took it to analyse the breaking strength of the messenger line.

A discrepancy with the crew list and the MSM Document issued by the Flag was noted during the investigation. The Master replied that the vessel complied with the MSM Document for the last voyage from Iskenderun to Sagunto. The Master was not aware of this discrepancy.

The Master stated that an ambulance was on the pier before the vessel berthed. He appreciated the swift and efficient action of the Pilot and the local Authorities.

1.4.2 Interview with the AB

AB was the signalling person on forecastle deck monitoring the process of heaving up the messenger line as instructed by the Chief Mate.

The AB could have evaluated the situation on the forecastle since he was in the best monitoring position, where the Chief Mate should normally have been located.

Following the Chief Mate's order to fasten the tug's line, he threw the heaving line to the tug. The Boatswain put the heaving line on the drum in order to heave up the heaving line, the messenger line and tug's line and fasten the latter to the bollards. He confirmed that the Chief Mate instructed him to pass the heaving line directly to the capstan and to the winch's drum.

He stated that the Chief Mate could have not seen the rope since the forecastle ventilator cap obstructed the view. AB confirmed that the end of the rope passed the centre fairlead i.e. it was inside the forecastle cca 60-70 cm.

He clearly saw that the tug rope was too thick with protection around the end and the splicing part and that it could not pass through the centre fairlead.

He confirmed that the tug's line was slack i.e. without tension when the messenger line snapped. According to him the tugboat was very close to the ship i.e. few meters from the bow at the time of accident.

He further confirmed that he did not see the tug's Master outside the wheel house but only the persons on deck who were engaged in taking the ship's heaving line

and connecting it to the tug's messenger line. Once connected, he signalled to the Chief Mate and the Boatswain to start with the heaving.

He stated that he warned the Chief Mate twice that the rope was too thick and that it could not pass through the centre fairlead. The Chief Mate ignored his warnings, probably believing that with a little force on the drum, the tug's rope could pass through.

He confirmed that the messenger line parted two meters from the connection point with the tug's rope. There was no friction against rollers or bollard at the breaking point.

He then noted that the Boatswain was lying on the deck in the vicinity of the mooring winch where he could not see the Chief Mate. He passed to the other side of forecastle and saw the Chief Mate who was bleeding from the head. His helmet was smashed from the rope's impact.



*Picture No 2
Broken Chief Mate's helmet*



*Picture No 3
Snapped messenger line*

1.4.3 Interview with the Boatswain

The Boatswain admitted that the Chief Mate controlled the mooring winch for the first time. He was previously in charge of monitoring the operation and signalling. However that morning he directed him to put the heaving line on the drum.

He put the heaving line first directly on the drum as ordered by the Chief Mate. The Chief Mate started heaving up the heaving line, then the messenger line. He stated there were three turns of the rope on the drum. When he felt a slight tension on the rope he added the fourth turn.

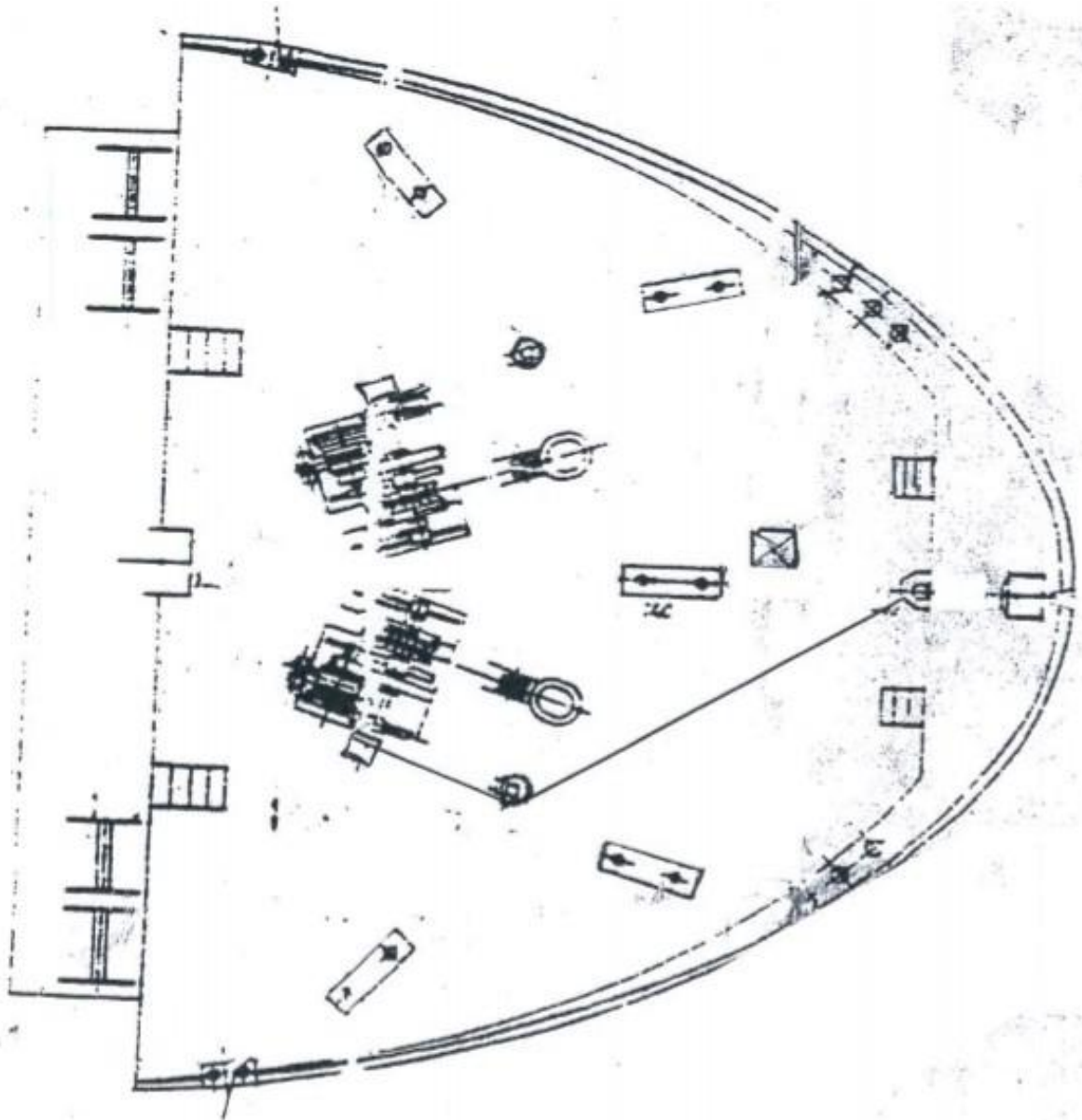
Shortly after that the messenger line parted and he lost consciousness. He does not recall how long he was unconscious. He only remembers the AB shouting that the Chief Mate was dead.

He stated that he was hit by the messenger line on the upper part of the helmet. The helmet was pushed down by the strength of the impact and broke his nose. At the time of the investigation his nose was bandaged and he had large bruises under the eyes.

On location, he explained the path of the heaving line, messenger line and tug's line as presented in the picture No 4 was as per Chief Mate's order. The AB also confirmed the path of the messenger line as presented in the picture No 4.

In his opinion the tugboat's rope was too thick to pass through the centre fairlead. In addition he added that the messenger line, although relatively thick, was worn.

The Boatswain concluded that his small height saved him "If I were tall like the Chief Mate, the messenger line would have killed me as well".



Picture No 4
Path of the heaving line, messenger line and tug's line

The Boatswain and the AB described the way the messenger line was heaved. It is noted that it passed the capstan and ended up on the drum without passing through the bollards.

He was asked to explain why the tug's line had not been stopped before transferring and fastening up to the bollards. He explained that it was an order from the Chief Mate to proceed in this way.

He stated that usually they used the path through the bollards and rope stopper to release the tug's rope from the drum and fasten it around the bollards. According to him the Chief Mate probably decided to proceed this way because the bollards were lower than the capstan.



*Picture No 5
Parted messenger line*

1.4.4 Interview with the Second Mate (Deck Officer)

The Deck Officer joined the vessel five months ago. This was his first contract as a Deck Officer. He commenced his sea career as a Radio Operator.

That morning his first task was to accompany the Pilot to the navigation bridge as per usual procedure.

He then stood on the poop deck with the two crewmembers for berthing. He was in contact with the Master by means of portable VHF. He received an order from the Master to run quickly towards the forecastle and to assess the situation.

Upon arriving, he found the Chief Mate lying on his back without any vital signs. He noted bad head injuries on the side and on the back part of the head. The Chief Mate was bleeding from the mouth. He checked his pulse immediately and reported to the Master that the Chief Mate had no pulse.

The Master immediately ordered him to take over the position on the forecastle deck and to fasten the tug, as soon as possible. After a brief consultation with AB and Boatswain he reported back to the Master that the centre fairlead could not be used due to size of the tug's rope. The Master, after consultation with the Pilot, advised him to fast the tug's rope through the starboard fairleads.

He stated that a new messenger line was used this time since the snapped one was yellow and the new was green. He added that the diameter of the latter one was greater and that the rope shown on the picture No. 6 could not have passed through the centre fairlead. The tugboat was fastened as ordered at 08:15 LT.

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*Picture No 6
Tug's rope fastened on bollard*



*Picture No 7
Fairleads where the messenger line finally passed*

SECTION 2 – ANALYSIS AND FINDINGS

2.1 Aim

The purpose of the analysis is to determine the contributory causes and circumstances of the accident as a basis for making recommendations to prevent similar accidents from occurring in the future.

2.2 General

Safety investigation on the casualty on board general cargo ship YALIKOY occurred on the 08.10.2019 where the Chief Mate lost his life and the Boatswain was injured.

2.3 Flow of the investigation

The investigation started by meeting the vessel's officers to explain the reason of the investigation. Full support and assistance were requested. The officers and crew were very cooperative despite the language barrier - the majority did not speak English. The Master and the Second Mate were interviewed in English. The Second Mate translated the interviews of the others from Turkish. A majority of the supporting documentation was on board.

A tour of the location of the casualty was arranged i.e. on the forecastle deck.

2.4 Findings

2.4.1 Size of the centre fairlead

The inner diameters of the centre fairlead (Picture No. 8) were measured. It was discovered that the inner width was 240 mm and the height was 160 mm. According to the tug's rope test certificate the diameter of the rope is 88 mm. The spliced end of the rope was covered with protection (Picture No. 9) which increased the overall diameter of the spliced end i.e. surpassed 160 mm which was the inner height of the centre fairlead.

2.4.2 Messenger's line strength

According to the rope's certificate the nominal breaking strength of the messenger line was 137 kN. According to the test done by the certified local laboratory the breaking strength of the messenger line was **66.42 kN**.



*Picture No 8
The centre fairlead*

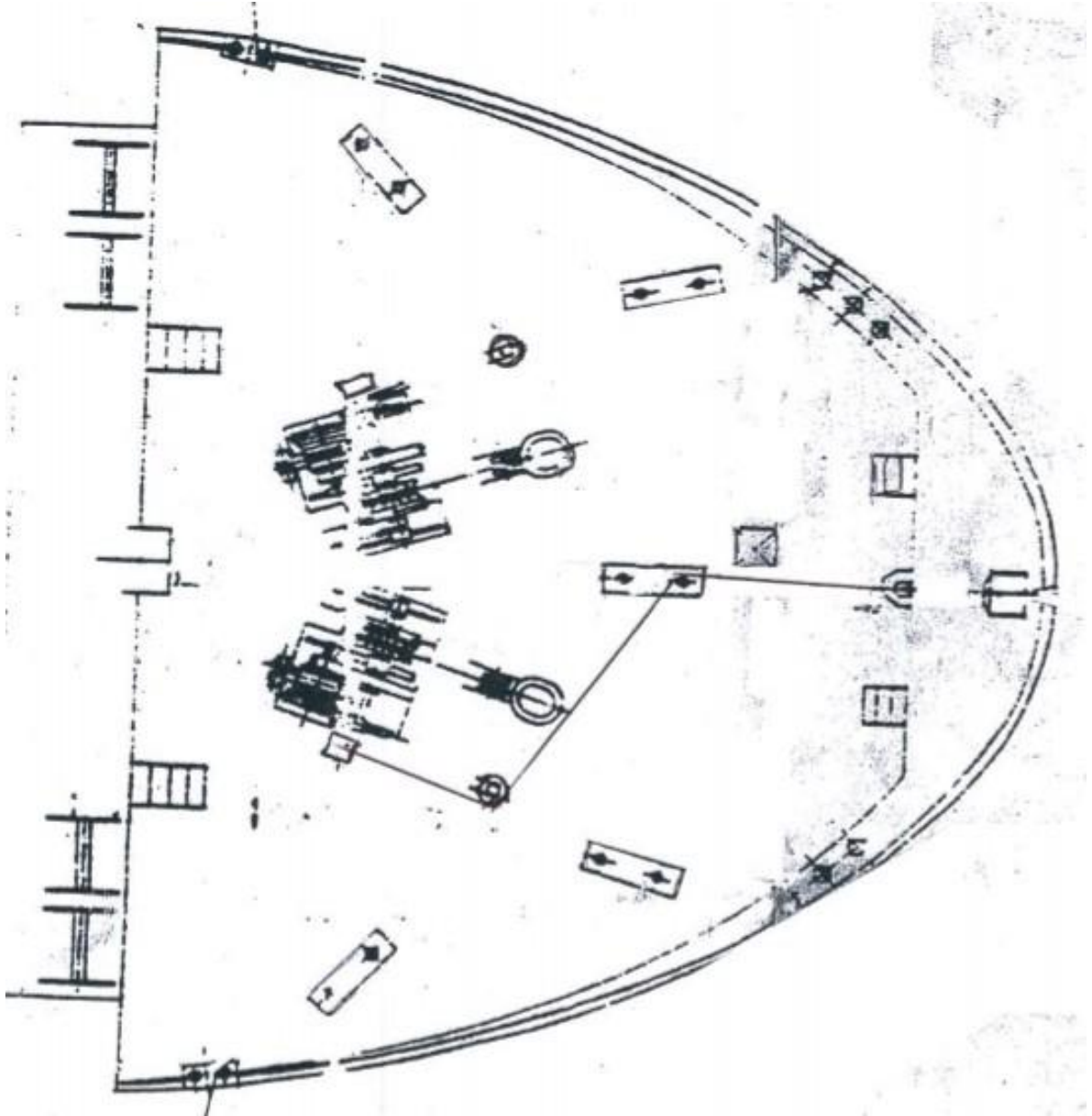
2.4.3 Way of fastening tug

The fastening of the tugboat was not in accordance with good seamanship practice.

On the spot verification proved that the other bollard should have been used for the proper fastening method i.e. fixing the tug's rope of bollard using rope's stopper as per common practice. The correct path of the ropes is shown on the above picture No. 9.

Any different configuration of heaving up the messenger line through the same fairlead would have the same result – snapped messenger line.

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Picture No 9
Correct path of tug boat fastening

2.4.4 Chief Mate's position at the time of casualty

The Officer in charge should monitor the entire operation from a higher viewpoint. The Chief Mate was commanding the mooring winch at the time of the casualty. The view from this position is completely obstructed by the forecastle ventilator cap hiding the fairlead and the rope passing through it, from the Chief Mate's view. It is confirmed on the spot that, without moving completely from his position, the Chief Mate could not see the centre fairlead (picture No.10).



*Picture No 10
Position where Chief Mate was located at the time of casualty, view forward*

2.4.5 Heaving angle of the messenger line

Given the draft of the vessel at the time of casualty the difference in height between the tug and vessel rope passing point was not more than 1m, which implies that any excessive friction of messenger line against the inner body of fairlead due to sharp heaving angle may be excluded.

2.4.6 Safety Management System on board

2.4.6.1 Risk assessment

There was no identified risk with respect to the size of the fairlead thus no proper risk assessment was conducted. The Master and the crew are now aware that this risk was always present especially when fastening bigger tugs/bigger towing lines.



*Picture No 11
The tug's line fasted*

2.4.6.2 Safety briefing

Once the nominated terminal/berth is known, the Master and responsible officers should have carried out a safety briefing / pre-mooring operation meeting with all crew involved and brief all personnel on the planned mooring operation including the tug's fastening.

There was no safety briefing before entering the port given that this was a new port for the majority of the crew. Master confirmed that specific briefing prior arrival/berthing was not given to the crew involved since this should have been a routine manoeuvring, even though this was a first time in this port for most of the crew.

2.4.6.3 Master/Pilot exchange card

According to the Safety Management System the Pilot and master should peruse and sign the Master/Pilot exchange card with essential information necessary for manoeuvring.

Master stated that the Master/Pilot exchange card was perused and signed. There is objective evidence that it was not signed by the Pilot.

2.4.6.4 Berthing/fastening tug procedure

There was no specific ship berthing procedure identifying the responsibilities and including tug boat fastening. The Master was asked to show a copy of SMS procedure concerning berthing/fastening tug. Master presented the arrival procedure in the Safety Management System.

The procedure did not mention the method of fastening the tug including the responsibilities and authorities.

2.4.6.5 Safe Manning and Flag specific Pre-arrival checklist

When the casualty occurred, the vessel was not manned as per Flag requirements i.e. the Minimum Safe Manning Document issued on the 19.10.2018. An Engineer Officer (STCW III/1) was not present on board. The Master was not aware that the vessel did not comply with the MSM Document on the voyage from Iskenderun to Sagunto. There was also no evidence that the Flag Circular PSC 033, i.e. pre-arrival checklist was implemented.

2.4.6.6 Safe working area

The forecastle deck was found to be without non slippery parts. This is not in line with ILO Code of Practice entitled Accident Prevention on-board Ship at Sea and in Port, 1996 . According to DMLC Part I compliance with standards and practices as set out in the mentioned Code are required.

2.4.6.7 Bridge team action

There is objective evidence that there was no helmsman on the bridge during the entering/berthing at Port of Segundo. Instead the Master took over duties of the helmsman which implies that he was not focused on the situation on the forecastle.

Master declared that the Chief Mate could not be seen due to the darkness, therefore, he could not instruct him to change position and re-gain control of the overall operation. Master confirmed that the Chief Mate should have monitored the overall situation without leaving AB as a signalling person on the forecastle deck and that similar situation had never occurred in the past.

According to the local information sunrise for this area occurred at 08:03 LT. There was no visible obstacle from the bridge to the heaving position on starboard side (picture No.12). The crew described the Chief Mate as a significantly tall person. Consequently the Master should have been able to see his position from the bridge.

2.4.6.8 Human factor, stress and fatigue

According to the shipboard working arrangements, ship's logs and records as well as the interviews, there is no objective evidence that the Chief Mate was under stress or fatigue. The AB, who was part of the watch on the navigation bridge, confirmed that on the morning when the casualty occurred, he and the Chief Mate had a normal chat, as usual. The Chief Mate was, according to the AB, in a good mood. All of the crewmembers who were interviewed confirmed that they were unaware of any personal/family or other problems that the Chief Mate may have had.

2.4.7 Actions from tug Master

There was no reaction/communication from tug Master having seen the size of fairlead and the fact that there was a delay in heaving.

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*Picture No 12
Position where Chief Mate were standing at the time of casualty, view from behind*

SECTION 3 - CONCLUSION

3.1 Contributing factors

- Lack of messenger's line strength
- Incorrect way of fastening the tugboat
- Incorrect Chief Mate's command position
- Lack of adequate SMS implementation including absence of the risk assessment, absence of safety briefings and bridge team procedures.

3.2 Identification of Causal Factor

The causal factor is attributed to the lack of sound judgement or underestimation of the situation.

The Chief Mate failed to identify that the spliced end of the tug's rope (encased in a protective cover) could not pass through the centre fairlead. Additional force applied to the messenger's line led to its snapping which resulted in the death of the Chief Mate and the injury to the Boatswain.

4. Recommendation

4.1 Recommendation to the Managing Company

The safety investigator confirmed that the Master and crew were aware of centre fairlead dimensions and restrictions when taking tug's rope.

In addition it is recommended that the Company conduct complex risk assessments in relation with the tug fastening and the berthing processes on all ships in the fleet and to update Safety Management System procedures accordingly.

The company should ensure that a helmsman should always be on the navigation bridge during the manoeuvring.

4.2 Recommendation to the Coastal State/Port Authority

The relevant Coastal State/Port Authority should develop criteria for periodical testing of the tugs' messenger lines and tugs' lines and to implement it.

SECTION 5 – LIST OF SOURCES

Copy of supporting documentation:

- 5.1 Statement of accident by the Master
- 5.2 Statement of accident by the Pilot
- 5.3 Statement of accident by the tug (VB VIGOR) Master
- 5.4 Sequences of events by the local Police
- 5.5 Report of the local (Spanish) Authority
- 5.6 Test Certificate of the messenger line
- 5.7 Test Certificate of fore runner towing line
- 5.8 Test Certificate of main towing line
- 5.9 Crew List
- 5.10 Ship's Particulars
- 5.11 Minimum Safe Manning Document
- 5.12 Valid Classification and Statutory Certificates of the vessel
- 5.13E-photos