

Final Report

CREW MISSING AT SEA FROM THE CONTAINER SHIP KOTA LAZIM ON 12 SEPTEMBER 2020

TIB/MAI/CAS.091

Transport Safety Investigation Bureau
Ministry of Transport
Singapore

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The Transport Safety Investigation Bureau of Singapore

The Transport Safety Investigation Bureau (TSIB) is the air, marine and rail accidents and incidents investigation authority in Singapore. Its mission is to promote transport safety through the conduct of independent investigations into air, marine and rail accidents and incidents.

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SYNOPSIS

On 12 September 2020, the Singapore registered container ship, Kota Lazim, was underway from Shanghai in the North Pacific Ocean enroute to the port Manzanillo, Mexico.

At about 0630H, the Bosun came to the bridge to take job orders from the Chief Officer, who was keeping the 0400H-0800H navigational watch. The Bosun could not find the Chief Officer and informed the Master, who turned the ship around on a reciprocal course.

Japan Coast Guard was alerted for search and rescue efforts, which spanned till the next day to no avail.

The Transport Safety Investigation Bureau classified the occurrence as Very Serious Marine Casualty and launched a marine safety investigation.

The Chief Officer was alone on the bridge and the vessel was underway on autopilot when the incident happened. While the investigation could not conclusively determine the cause for the Chief Officer to go missing, it revealed that the Company's SMS on bridge watchkeeping was not implemented as there was no lookout with the Chief Officer. In addition, the established procedures for mitigating the risk of a single watchkeeper were not complied with, as the Bridge Navigational Watch Alarm System (BNWAS) had been switched off.

VIEW OF THE VESSEL



Kota Lazim
(Source: The Company)

DETAILS OF THE VESSEL

Name	Kota Lazim
IMO Number	9351050
Flag	Singapore
Classification society	Lloyd's Register (LR) ¹
Recognised Organisation	ClassNK ²
Ship type	Container ship
Hull	Steel
Delivery	1 January 2008 ³
Owner / Operators / ISM ⁴ Managers	Pacific International Lines (PIL) (Pte.) Ltd. / PIL Shipmanagement (Shanghai) Ltd.
Gross tonnage	39,906
Length overall	261.84m
Beam	32.25m
Moulded depth	19.30m
Summer draft	12.626m

¹ LR was also the Recognised Organisation for issuing the Safety Management Certificate (SMC) to Kota Lazim.

² ClassNK had issued the Document of Compliance to the Company for the safe operation of ships.

³ Deregistered from Singapore flag on 7 January 2021.

⁴ International management code for the safe operation of ships and for pollution prevention.

Max cargo capacity	4253 TEU ⁵
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⁵ Twenty-foot equivalent unit.

1 **FACTUAL INFORMATION**

All times used in this report are ship's mean time of Kota Lazim, which was ten hours ahead of UTC (UTC + 10H), unless otherwise stated.

1.1 **Sequence of events**

- 1.1.1 On 8 September 2020, the Singapore registered container ship, Kota Lazim (KL) departed the Port of Shanghai bound for the Port of Manzanillo, Mexico.
- 1.1.2 The Chief Officer (CO) had joined KL a day prior to departure and took over from the previous CO after having attended a Company orientation (briefing) at the office in China. As with most ships, the navigational watch on KL was spread out in three parts⁶, 8-12, 12-4 and 4-8. The CO was scheduled to be on the 4-8 watch.
- 1.1.3 On the morning of 12 September 2020, when KL was on autopilot, at about 0630H, the Bosun⁷ came to the bridge as a part of the daily routine to take job orders for the day from the CO. Not being able to see the CO on the bridge, the Bosun thought that the CO could have gone to the attached bridge toilet.
- 1.1.4 The Bosun waited for about 30 minutes and left the bridge to go down to the ship office, thinking that the CO might be there. The CO was not in the ship office either, and the Bosun returned to the bridge, opened the bridge toilet (which was empty) and went out to the bridge wings but could not locate the CO.
- 1.1.5 At about 0715H the Bosun informed the Master who then made an announcement on the public address system and initiated a search for the CO on board⁸.
- 1.1.6 All crew were mustered and attempts to establish the CO's last known / seen location and position were carried out. According to the Second Officer (2O), the CO was called at about 0350H to take over the navigational watch.
- 1.1.7 The CO came to the bridge soon after and took over the conn of KL from the 2O. The able seafarer deck⁹ (ASD-1) performing the role of the lookout

⁶ 0800H-1200H/2000H-2400H; 1200H-1600H/0000H-0400H; and 0400H-0800H/1600H-2000H.

⁷ Senior most crew member and overall in-charge of the deck crew. Worked as a dayworker and routine working hours between 0800H and 1700H at sea.

⁸ The search included various areas including but not limited to, accommodation, lifeboat, cargo holds.

⁹ Held valid certificates for ratings forming a part of a navigational watch.

during the 12-4 watch greeted the CO and was asked by the CO to go down for rest. After handing over the watch to the CO, the 2O too left the bridge. The last entry by the CO of the ship's position in the logbook was at 0600H.

- 1.1.8 After an unsuccessful search on board, the Company was notified at about 0830H, and the vessel was prepared to be turned around on a reciprocal course towards the last known location. Subsequently a distress alert was sent out requesting vessels in the vicinity of a possible man overboard (MOB) situation.
- 1.1.9 The Japan Maritime Rescue Coordination Centre (MRCC) was requested for Search and Rescue (SAR) assistance, based on the last known location. The Master concurrently required various KL's crew to perform the role of extra lookouts on the vessel. By 1000H the crew confirmed that all lifesaving appliances on board KL were accounted for and by 1036H KL had arrived at the 0600H position and commenced a parallel search pattern to locate the CO. At about 1335H, the Master noted the presence of a SAR aircraft by the Japan Coast Guard in the vicinity, which left the scene at about 1500H.
- 1.1.10 There was no sign of the CO and the search was suspended at sunset. The next morning the search resumed at about 0530H and suspended at about 1400H after the Master consulted the Company and informed the Japan MRCC of its intention.
- 1.1.11 KL resumed its voyage to Manzanillo thereafter and the Japan Coast Guard was requested to continue with the search efforts.

1.2 **The ship and the bridge layout**

- 1.2.1 KL was a fully cellular container ship, with seven cargo holds and on a trade route between the west coast of Mexico & South America and the far east region.
- 1.2.2 The bridge was located seven decks above the upper deck (see **figure 1**). The height of the bridge above the sea was about 30m.



Figure 1 – Profile view of KL indicating location of the bridge – Source: The Company

- 1.2.3 The layout of the bridge on Kota Lazim is typical of a ship of this size. The navigational equipment such as radars and the electronic chart display information system (ECDIS) are fitted in the forward part of the bridge while the global maritime distress safety system (GMDSS) related equipment are located at the aft part of the bridge, separated by curtains, drawn during the hours of darkness (see **figure 2**). When the Bosun came to the bridge the GMDSS was found undisturbed and in normal condition.

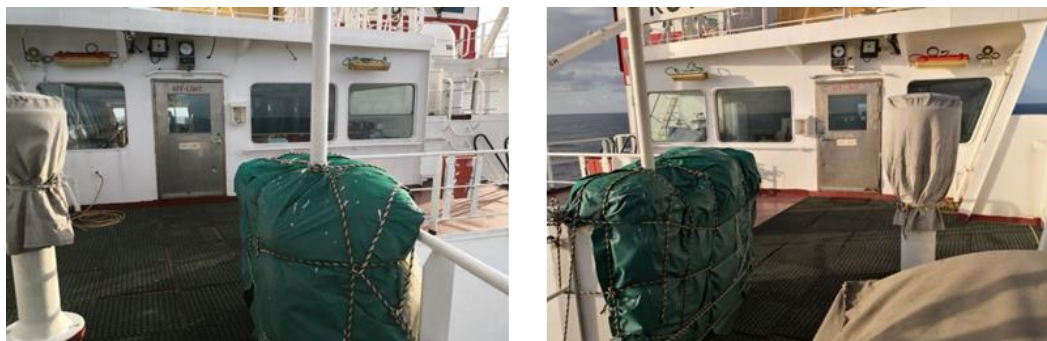


Figure 2 – View of the forward part of the bridge (left image) and the aft part (right image) – Source: The Company

- 1.2.4 The bridge is connected to the bridge wings by two doors, one on each side, capable of being opened using a lever from inside and outside. Both the doors were found closed when the Bosun came to the bridge. The bridge wings extended to the ship's side and had rubber mats throughout (see **figure 3**).



Figure 3 – View of the port bridge wing (left image) and starboard bridge wing – both looking towards the bridge – *Source: The Company*

1.2.5 The forward and side parts of the bridge wings are of continuous wind breaker¹⁰ (protection from wind) while the aft part has railings, which are directly above the lower decks, again a standard design on ships of this size. According to the Company, there were no marks (of leaning over or footmarks on railings) that could indicate an accidental fall over any part of the wing.



Figure 4 – The port bridge wing (left image) and starboard bridge wing – both viewed from the bridge – *Source: The Company*

1.2.6 At the time of occurrence, KL was drawing a draught of 11.9m forward and 12.2m aft, with a stern trim of 0.3m which was conventional to other similar type of ships. KL was manned by 19 Chinese nationals including the Master.

1.3 **About the CO**

1.3.1 On KL like most ships, the CO was the head of the Deck-department, primarily responsible for cargo operations as well as keeping a navigational watch at sea for the periods of 0400H-0800H and 1600H-2000H. The CO was also responsible for the up-keep and readiness of life-saving appliances (LSA) and fire-fighting equipment (FFE) on board.

¹⁰ The height of the wind breaker is about 1.45m.

- 1.3.2 The CO, age 36, had an in-rank experience of about 14 months prior to joining the Company. There were no medical restrictions in the pre-employment medical examination conducted for the CO.
- 1.3.3 The CO's typical routine on board was to oversee routine inspection and maintenance work on deck during the day, after the morning navigational watch. The CO would go for rest in his cabin at about 1200H.
- 1.3.4 According to KL's work/rest hour records, maintained electronically¹¹, the CO had 13 hours of rest on the previous day (11 September 2020). The CO also had more than 10 hours of rest in any 24-hour period (since joining on 7 September 2020), indicating compliance with the STCW and MLC Convention's requirements for hours of work and rest¹².
- 1.3.5 There were two entries made in the rest hour record management system, for the day under the CO's record, i.e. from 0400H-0600H. The Company and Master confirmed¹³ that these entries had been made by the CO.
- 1.3.6 During the induction briefing there were no negative observations noted by the office personnel about the CO's demeanour or attitude. There were also no indications of any problems that the CO had shared with any persons on board KL. The Company added that the CO had cordial relations with everyone during the short period since he had been on board. According to the Company the CO was married with two children.

1.4 **The other crew**

- 1.4.1 The Master joined the Company in 2019 and had in-rank experience on container ships for nearly three years. The Master also joined KL on 7 September 2020.
- 1.4.2 The 2O and 3O, together with the CO, had also joined KL on 7 September 2020 and had been with the Company for less than two years. Both officers were reportedly familiar with the Company's SMS.
- 1.4.3 The ASD-1 had an in-rank experience of over five years, been with the Company since 2019 and like the two officers, reportedly familiar with the Company's SMS.

¹¹ Each crew had been assigned an account to enter their details in the rest hour record management system, which could only be accessed by the respective crew.

¹² STCW Chapter VIII and MLC, Reg 2.3 with regards to rest hour - Minimum hours of rest shall not be less than i) ten hours in any 24-hour period; and ii) 77 hours in any seven-day period. Hours of rest may be divided into no more than two periods, one of which shall be at least six hours in length, and the interval between consecutive periods of rest shall not exceed 14 hours.

¹³ Based on the electronic log history of the rest hour record management system.

1.4.4 The Bosun had an in-rank experience of nearly eight years, been with the Company since 2017 and held certificates of a rating forming a part of a navigational watch.

1.5 **The BNWAS¹⁴**

1.5.1 In accordance with SOLAS requirements¹⁵ KL is fitted with a BNWAS¹⁶. The equipment is capable of being switched ON, OFF or AUTO using a key. According to the Company the key is required to be under the Master's custody.

1.5.2 The BNWAS is designed to monitor the awareness of the officer of the watch (OOW) and automatically alerts the Master or another qualified OOW if for any reasons the OOW becomes incapable of performing the OOW's duty. This purpose is achieved by a series of indications and alarms to alert first the OOW and, if the OOW is not responding, then to alert the Master or another qualified OOW.

1.5.3 The alarm of the BNWAS gets activated every 12 minutes by a buzzer which lasts for 15 seconds. Within the 15 seconds the reset button should be pressed to start the 12-minute dormant period again. The BNWAS should be operational whenever the ship's heading or track control system (autopilot) is engaged, unless inhibited by the Master.

1.5.4 According to the Master the BNWAS had not been switched on since departure from Shanghai, due to an oversight.

1.5.5 The flag Administration's requirements for fitting of BNWAS are captured in Shipping Circular No. 21 of 2010. The BNWAS on KL has option provisions for motion sensors to be fitted on the bridge to reset the alarms. According to the flag Administration, a motion sensor does not meet the design criteria of a reset function and hence no motion sensors were fitted and the alarms could only be reset by pressing the reset button provided on various parts of the bridge.

1.6 **The Safety Management System (SMS) and its procedures**

1.6.1 The Company managed a fleet of container ships.

1.6.2 A full term of Document of Compliance certificate was issued to the

¹⁴ Bridge Navigational Watch Alarm System. Make: Interschalt A006.6-1.

¹⁵ According to SOLAS Regulation V/19.2.2.3.

¹⁶ The purpose of a bridge navigational watch alarm system (BNWAS) is to monitor bridge activity and detect operator disability which could lead to marine accidents. Source: IMO Res. MSC.128(75).

Company by ClassNK on 16 May 2016 and valid until 1 April 2021.

- 1.6.3 A full term of Safety Management certificate was issued by Lloyd's Register for KL on 18 January 2017 based on the verification audit completed on the same date and valid until 17 January 2022.
- 1.6.4 The Company's SMS procedures had a strict drug and alcohol policy on its fleet of ships. At the time of accident, there was no evidence to suggest that any crew members consumed alcohol prior to their duties.
- 1.6.5 The SMS required the BNWAS to be operational at all times when the ship is underway and at anchorage. The SMS also stated that the OOW or Master is required to ensure that the BNWAS is engaged prior to departure from a port. The OOW was further required to make an entry¹⁷ into the deck logbook at the end of every watch indicating that "BNWAS maintained operational at all times".
- 1.6.6 According to the deck logbook records, entries with some codes¹⁸ were made by the OOWs. One of these codes was 35 which meant to indicate status of the BNWAS. The deck logbook entries sampled for the period since departure Shanghai indicated that all the OOW's had written code 35 in their period of watch indicating that the BNWAS was active.
- 1.6.7 The Company's SMS had a pre-departure checklist which was typically used to verify equipment status prior to the vessel's departure. These included navigational equipment, steering systems, alarms, radars, ECDIS, GPS etc. There was no specific mention of ensuring the BNWAS was activated prior to departure.

¹⁷ This entry could be achieved by entering a Code – 35 in the logbook.

¹⁸ Example of these codes were fire patrols, navigation lights ON, test of steering systems.

1.6.8 The Company's SMS also had a bridge watch handover checklist B-05 which was required to be filled up by the OOW at the change of every watch. The list of items to be checked included various things such as ship's status, machinery and equipment. There was no mention for the BNWAS to be checked (see **figure 5**).

NO	Check Items	
01	Standing orders, night orders and other special instructions	<input type="checkbox"/>
02	The position, course, speed, effect of squat, draught and status of lights / nav.euip & mach'nry.	<input type="checkbox"/>
03	Prevailing and predicted tides, currents, weather and visibility	<input type="checkbox"/>
04	The passage plan for the period of the forthcoming watch and two hours thereafter	<input type="checkbox"/>
05	Progress of own ship throughout the previous watch	<input type="checkbox"/>
06	Courses to steer throughout the coming watch and 2 hours thereafter	<input type="checkbox"/>
07	Navigational marks, lights in sight or expected to be sighted during the watch & 2 hrs thereafter	<input type="checkbox"/>
08	Navigational hazards of potential dangers the vessel is expected to pass during the forthcoming watch and 2 hours thereafter	<input type="checkbox"/>
09	Any Special Areas vessel is expected to enter/ exit or transit during the forthcoming watch & 2 hrs thereafter? (Marpol Annex-1, Annex-4 & Annex-5) (SECAs Marpol Annex-6)?	<input type="checkbox"/>
10	Have the relevent persons been informed?	<input type="checkbox"/>
11	Movement of other vessels in vicinity and effect on own ship	<input type="checkbox"/>
12	Any ballast adjustments in progress likely to effect ship's draught / trim / list?	<input type="checkbox"/>
13	Any work on deck / accommodation / machinery space that may require action to assure safety of crew, ship, cargo, protection of environment & pollution prevention?	<input type="checkbox"/>
14	Status of the vessel with regard to machinery or other item which may effect manoeuverability	<input type="checkbox"/>
15	Are all members of the relieving watch alert and capable of performing their duties?	<input type="checkbox"/>
16	Has vision been properly adjusted to the prevailing conditions?	<input type="checkbox"/>

Figure 5 – Sample of bridge watch handover checklist B-05

1.6.9 The SMS further stipulated that the bridge was not to be left unattended for when underway or at anchor. According to the Company all officers and crew were familiar with the requirements of the SMS.

1.7 The watchkeeping roster

1.7.1 According to the SMS, the Master of every vessel is bound to ensure that the watch keeping arrangements are adequate for maintaining a safe navigational watch.

1.7.2 Under the Master's general directions, the OOW is responsible for navigating the ship safely. The composition of the watch, including the requirement for lookout(s), shall always be adequate and appropriate to the prevailing circumstances and conditions.

1.7.3 The watchkeeping roster is under the direct responsibility of the Master, prepared and posted by the CO. The roster on KL was last updated on 7 September 2020. As a part of this roster, the crew were assigned to different watchkeeping periods, as well as duties to be performed when the

vessel is at sea or in port. The ASD-2 was assigned to be a part of the CO's watchkeeping schedule.

- 1.7.4 The investigation team noted from the records on board that the ASD-2 had been keeping the watch on all days since KL's departure from Shanghai, except on the day of the occurrence.
- 1.7.5 According to the ASD-2, he had been asked by the CO not come for the watch at 0400H-0800H as per schedule on 12 September, as the ASD-2's presence was needed on deck during the day. The Master or other crew were not aware of this instruction to the ASD-2. The Master and the Company were not able to provide the investigation team with any work schedule that was planned for 12 September 2020 for which the ASD-2 could be required.
- 1.7.6 When the ASD-2 did not turn up for the CO's watch as scheduled, neither the 2O nor ASD-1 queried the CO on the reason for the ASD-2 not to be on the bridge as required by the SMS. The ASD-1, on completion of the watch at 0400H, left the bridge.

1.8 **Additional information**

- 1.8.1 The investigation team reviewed the voyage data recorder (VDR) of KL for the period of the 2O's and CO's navigation watch on 12 September 2020. The audio recording confirmed that the BNWAS alarms were not present and that there were minimal conversations between the 2O and the CO at the time of the watch being handed over.
- 1.8.2 From the audio recording of the VDR, between 0400H-0600H, there was no unusual activity heard on the bridge, except for the opening and closing of the doors leading to the bridge wing on a few occasions¹⁹ before 0600H. The next significant activity heard was at about 0630H, presumably when the Bosun arrived on the bridge.
- 1.8.3 There was no other source of information such as CCTV cameras on the vessel that could have shed light on the CO's disappearance.
- 1.8.4 The Company used a software for its crew to document the work and rest hours for ensuring compliance with requirements of the MLC. Each officer and crew were assigned with a separate account to use their assigned credentials. It was a common practice for the officers and crew to document their rest hour records at the end of the navigation watch or end of the

¹⁹ It is not abnormal for an OOW to go out on the bridge wing during the navigational watch.

workday. According to the Company, work and rest hours for the CO indicated that the system had been logged in with the CO's credentials on the day of the occurrence.

1.9 **Environmental condition**

1.9.1 The 0400H entry in the deck logbook by the 2O indicated north-westerly strong breeze of about 22-27kts (Beaufort scale, force 6), with rough sea condition of Beaufort scale 5. The sky was overcast. The entries made by the OOW at 0800H indicated the wind to be Beaufort scale 4, and the visibility was good at approximately seven nautical miles.

1.9.2 The sea water temperature at the area where KL was transiting was about 18° C.

2 ANALYSIS

2.1 The CO's disappearance

2.1.1 The CO had been on board for about five days prior to the occurrence. During the short duration, the CO was deemed to have cordial relations with all on board. The office orientation also did not reveal any indications of the CO being troubled or worried.

2.1.2 The watchkeeping roster was the responsibility of the Master as per the SMS and the CO would typically prepare it. It is reasonable to deduce that the roster dated 7 September 2020 was done by the previous CO before handing over to the new CO (the missing CO).

2.1.3 According to the ASD-2, he was specifically told by the CO on the evening of 11 September not to report for the 0400H-0800H bridge watch on 12 September 2020. Reasons for these instructions could not be established. The investigation team could not verify the arrangement made between the CO and the ASD-2. If indeed the CO had instructed the ASD-2 not to attend the watch on 12 September 2020, then the CO could possibly want to do something that he did not wish to have another person on the bridge. Based on the entries in the logbook, the CO had likely been on the bridge till about 0600H.

2.1.4 The weather documented in the logbook by the 2O during the watch indicated rough seas and moderate to heavy rolling to be expected. Although an accidental fall could not be established, it could not be ruled out. The reason for the CO's disappearance could either be accidental (falling from the bridge wing) or intentional. Neither of these reasons could be established with certainty.

2.1.5 Regardless of the reason for the disappearance, the investigation team looked at the SMS requirements for BNWAS and proper manning of the bridge.

2.2 The SMS' requirement for BNWAS to be operational

2.2.1 The BNWAS is intended to alert the OOW or the Master in case of incapacitation of an OOW, to ensure early intervention for the safety of the ship. This intent was adequately captured in the Company's SMS. The SMS required that BNWAS was to be switched on prior to departing a port and that every OOW was to record its operational status in the logbook at the end of every watch.

- 2.2.2 The BNWAS had been switched off since departure from Shanghai port and left off for several days till the day of the occurrence. Had it been active, as required by the SMS, it would have alerted another OOW or the Master if the alarm was not acknowledged by the CO within the prescribed timing (12 minutes for the end of the dormant period) and allowed for an early intervention to know something was amiss.
- 2.2.3 According to the Master, due to an oversight, the BNWAS had not been operational since departing Shanghai. However, entries in the deck logbook by the OOWs indicated that the BNWAS was active since departure from Shanghai, despite it being switched off. This was indicative that the entries were a “paper exercise” to show compliance with the Company’s SMS and that the intent and purpose of the BNWAS had not been appreciated by the navigating officers.
- 2.2.4 The way the SMS was written suggested that either the OOW or Master is required to ensure that the BNWAS was engaged prior to departure from a port. This alternative wording does not allow for an ownership / accountability to ensure that the BNWAS was operational, as one would think it is the other’s responsibility and result in a situation when neither one on board would be accountable for it.
- 2.2.5 It would have been desirable for the BNWAS’ operational check to be included in the pre-departure checklist, which is typically used to verify operational conditions of various navigational equipment, such as radars, ECDIS, GPS etc. prior departure, as well as the bridge watch handover checklist.
- 2.2.6 The investigation team also noted from the Company that the key to the BNWAS is always required to be with the Master after it has been activated. However, it was noted that on KL, the key was always connected to the BNWAS. This inappropriate practice could have been a matter of convenience but allowed the intent of the BNWAS to be compromised as any of the OOWs could have switched it off during passage without the Master knowing about it.

2.3 **Proper manning of the bridge**

- 2.3.1 As per KL’s SMS, for navigation safety, the composition of each watch (especially during hours of darkness) included the OOW and a lookout. Such a requirement is of utmost important to ensure the safety of the vessel and its crew. The investigation team noted that several opportunities had been missed to avoid having the bridge being manned by a single person.

- The ASD-2's account of the assignment in the day of the occurrence could not be verified. In practice, a deck crew would follow the instructions of the Chief Officer (being in charge of the roster). These instructions for the ASD-2 not to come on the bridge were not known to the Master under whose authority the amendments were permitted.
- When the ASD-2 did not turn up for the assigned watch at 0400H, neither the 2O nor the ASD-1 raised any concerns of this absence not being in accordance with the Company's SMS. Noting the CO was new to the Company, the duo should have reminded that the ASD-2's presence was required on the bridge for keeping a safe navigational watch. Accordingly, the ASD-1 should not have left the bridge till properly being relieved.
- When the Bosun did not find the CO on the bridge, although he stayed on the bridge for 30 minutes, he left the bridge unattended thereafter to look for the CO in the Ship office. This was again not as per the requirements of the SMS as the bridge was not to be left unattended when the vessel was underway. An empty bridge should have alerted the Bosun, who was an experienced seafarer and held certificates of ratings for supporting navigational watch, of the navigational risk and he could have alerted the Master while staying on the bridge (such as using the telephone).

3 CONCLUSIONS

From the information gathered, the following findings are made. These findings should not be read as apportioning blame or liability to any particular organisation or individual.

- 3.1 The CO was alone on the bridge and had likely been on the bridge till about 0600H. The reasons for the CO's disappearance could not be established with certainty, as it could have been accidental (e.g. falling from the bridge wing) or intentional.
- 3.2 The ASD-2, who was supposed to be on the same watch schedule as the CO, had reportedly been asked by the CO not to come for the scheduled watch on the bridge as his presence was required on deck that day. However, there were no tasks planned that could have required the ASD-2's presence on deck.
- 3.3 The 2O and the ASD-1 did not raise any concerns with the CO or the Master when the ASD-2 did not turn up for the watch in accordance with the SMS.
- 3.4 The BNWAS had been switched off since departing the previous port. As a result, none of the other officers or the Master was alerted when there was no activity on the bridge during the period that the CO went missing.
- 3.5 Despite the SMS requiring the BNWAS to be in operational at all times when the ship is underway and at anchorage and the operational status of the BNWAS to be verified by the OOW and the Master, it was kept off and its status reflected as active in the deck logbook. The purpose of the BNWAS was not fully appreciated by the navigating officers on board KL.
- 3.6 The wordings in the SMS for ensuring that the BNWAS to be switched on prior to departure from a port were ambiguous and did not allow for ownership / accountability.
- 3.7 The inappropriate practice of the BNWAS key to be connected to the BNWAS allowed its intent to be compromised as any of the OOWs could switch it off without the Master knowing about it.
- 3.8 The pre-departure checklist and bridge watch handover checklist did not require the operational status of the BNWAS to be checked.
- 3.9 The safety of navigation of KL was compromised when the CO was alone on the bridge after taking over from the 2O, as well as when the Bosun left the bridge unattended to look for the CO.

4 SAFETY ACTIONS

Arising from discussions with the investigation team, the Company has taken the following safety action.

- 4.1 A fleet circular was disseminated to emphasise the importance of appropriate watch arrangements, BNWAS to be activated for the safety of navigation, the bridge to be manned appropriately at all times, and the availability of a convenient avenue for the fleet personnel to report unsafe practices on board including solo watch during hours of darkness.
- 4.2 Enhance training program to ensure clear understanding of safety as priority by all personnel on board.
- 4.3 Amended the pre-departure and watch handover checklist in the SMS to require the checking and recording of the BNWAS status during the pre-departure checks and navigation watch handover respectively.
- 4.4 Amended the SMS procedures to require the Master to be solely accountable for ensuring the key of BNWAS is in the possession of the Master to avoid the inappropriate practice of switching off the BNWAS.
- 4.5 To require the Master to be notified if the lookout is not relieved as per the watchkeeping schedule.

5 SAFETY RECOMMENDATIONS

A safety recommendation is for the purpose of preventive action and shall in no case create a presumption of blame or liability.

In view of the safety actions taken by the Company (the ISM Managers), no safety recommendations have been issued.

- End of Report -