Marine Safety Investigation Unit

Transport Malta

SAFETY INVESTIGATION REPORT

202410/023 REPORT NO.: 07/2025 October 2025

MV *KAIRIT*

Near-grounding in Danish territorial waters, in position 55° 22.3' N 012° 28.7' E
13 October 2024

SUMMARY

On 12 October 2024, at 2200, the cargo vessel *Kairit* departed from Mukran, Germany, carrying 4,400 metric tonnes of wheat, bound for Immingham, UK. At departure, the master was on watch, later handing over to the chief officer at midnight.

At 0505, *Kairit* entered the traffic separation scheme (TSS) off Falsterbro, proceeding Westbound at eight knots. The chief officer, seated on the bridge, fell asleep after sending an AB for a routine safety check.

At 0650, when the vessel was 1.5 nm off course, heading toward Stevns Klint, Denmark, the master arrived on the bridge, finding alarms ringing and the chief officer asleep. He promptly corrected the course and responded to the calls. It was later discovered that the bridge navigational watchkeeping alarm system (BNWAS) was switched off.

The MSIU has issued two recommendations to the Company and the flag State Administration, addressing fatigue prevention and manning.

MV *Kairit*

FACTUAL INFORMATION

Vessel

Kairit was a Maltese-registered[1] general cargo of 2,997gt (**Figure 1**). It was built in 2000 at Damen Shipyards Hoogezand, The Netherlands, as Hull No. 760. The vessel's registered owners were HS Kairit OU, Estonia, and was operated by Hansa Ship Management OU, based in Estonia. *Kairit* was classed by Registro Italiano Navale (RINA), which also acted as the recognised organisation for the compliance with the International Safety Management (ISM) Code.

Kairit had a registered length of 90.05 m, a breadth of 13.17 m, and a summer deadweight of 4,920 mt, which corresponded to a summer draft of 6.20 m. Propulsive power was provided by a 12-cylinder Deutz BV12M628, medium speed diesel engine, producing 2,760 kW. The main engine drove a single, controlable pitch propeller, through a reduction gearbox, enabling the vessel to reach a service speed of 10.5 knots.

Manning

The vessel's Minimum Safe Manning Certificate prescribed a crew of eight[2], *i.e.*, a master, a chief officer, a chief engineer, a second engineer, three deck ratings, and one engine rating. These requirements were met by the vessel.

The Minimum Safe Manning Certificate further required that the vessel's trading area was restricted to the Baltic Sea, North Sea, European coast, Morocco (Casablanca), Mediterranean Sea and Black Sea, excluding the Azores. When trading beyond this area, a navigational watchkeeping officer had to be added to the vessel.

The chief officer was a 54-year old Russian national and had joined the vessel on 18 August 2024. The master was also a Russian national and was 58 years old. He had signed on the vessel on 02 October 2024, *i.e.*, 11 days prior to the incident.

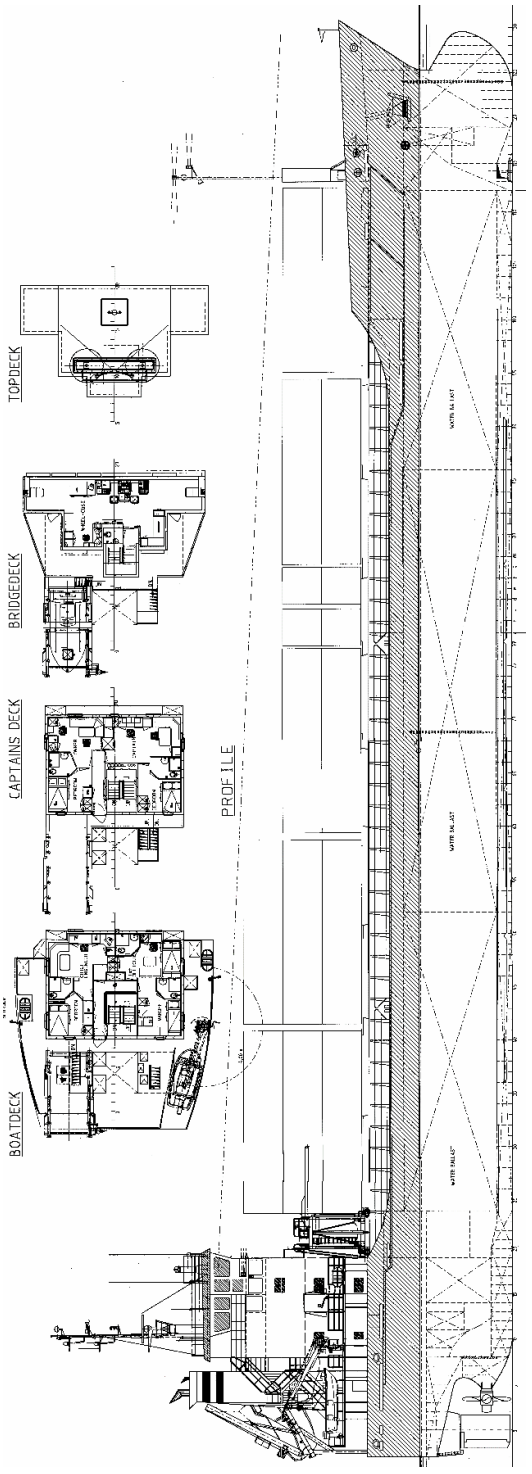

Figure 1: GA Plan MV *Kairit*

[1] The vessel has been deleted from the Maltese Register on 01 November 2024, at the owners' request.

[2] Provided that the unmanned machinery space (UMS) and the bridge control systems were operational, and at least two deck officers held Global Maritime Distress and Safety System (GMDSS) General Operator's Certificates.

The chief officer had joined the vessel in August 2024 and was scheduled to sign off by the end of October / early November.

Narrative[3]

On 12 October 2024, at 2200, *Kairit* departed from the port of Mukran, Germany. The vessel was loaded with 4,400 metric tonnes (mt) of wheat in bulk, bound for Immingham, United Kingdom.

The vessel was manned by eight crew members, *i.e.*, the master, chief officer, chief engineer, second engineer, three able seafarers – deck (AB), one of whom also performed the duties of cook, and one able seafarer – engine.

At the time of departure, the master was the officer-of-the-watch (OOW), with an AB acting as the lookout / helmsman. At midnight, the navigational watch was taken over by the chief officer and another AB. The chief officer was to keep a watch until 0700, while the AB's watch changed at 0400. The first five hours of the watch were uneventful, with the vessel following its planned courses, light traffic in the vicinity, and good weather conditions.

At 0505, the vessel entered the traffic separation scheme (TSS) off Falsterbro, and proceeded in the Westbound traffic lane, on a course of 291°. The vessel was to alter its course to 336°, after approximately five nautical miles (nm). The vessel's speed was about eight knots, and the alteration point was expected to be reached in approximately 45 minutes.

At around 0540, the chief officer requested the AB to conduct a safety round of the vessel and to sound the cargo hold bilges. This was a routine procedure during the vessel's laden voyages. The AB left the bridge. Shortly after, whilst the chief officer was seated on a bridge chair (**Figure 2**), he fell asleep.

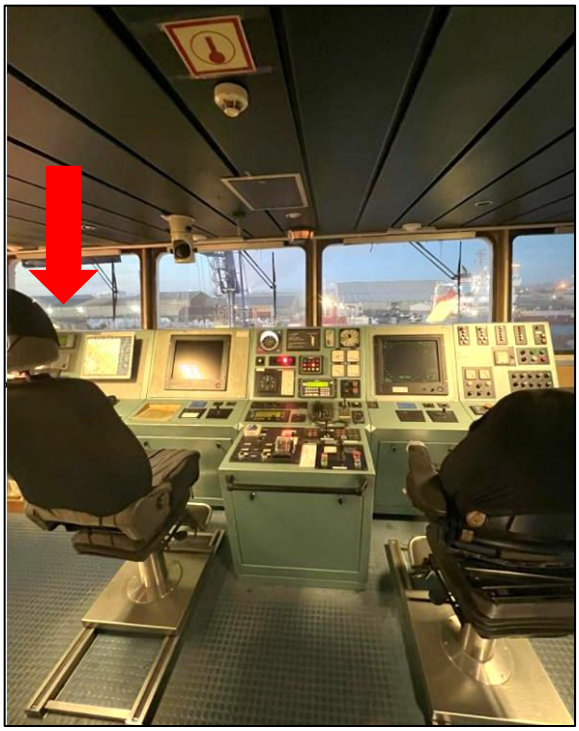

Figure 2: The bridge chair on which the chief officer fell asleep

At 0615, Sound Vessel Traffic Services (Sound VTS) of Sweden contacted the Danish Maritime Assistance Service (DMAS) to advise of the unsuccessful attempts to contact *Kairit.* Sound VTS was concerned that the vessel had not altered its course in the TSS, as required. Sound VTS also informed DMAS that they had previously called the vessel when it had not altered its course upon entering the TSS and at that time, although a response was received and the vessel's course was altered, the OOW sounded tired.

From 0618 onwards, DMAS' numerous attempts to contact the vessel, by various means, were unsuccessful. DMAS tried to contact *Kairit* through very high frequency (VHF) radio calls, VHF digital selective calling (DSC) alerts, and a phone call to the Company. Following this call, the Company's representative also attempted to

[3] Unless otherwise stated, all times are vessel's time (UTC +3).

contact the vessel by telephone, but still no response was received.

By 0650, *Kairit* was about 1.5 nm off course and heading towards Stevns Klint, Denmark, with the risk of running aground (**Figure 3**). It was approximately at this time, that the master arrived on the bridge to take over the navigational watch from the chief officer.

Upon entering the bridge, the master heard the vessel's mobile phone ringing, VHF DSC alarms, and frequent VHF radio calls being made to the vessel. Noticing the chief officer asleep on the chair, he soon realised that the vessel was off course, dangerously heading towards the shore and shallow waters.

He immediately answered the mobile phone call, which was from the Sound VTS operator, advising him to alter the vessels' course immediately. The master confirmed that he would be doing so and then set about to acknowledge the alarms, while altering the vessel's course to starboard.

The master also answered a very concerned mobile phone call from DMAS. He explained to DMAS what had happened and confirmed that he had altered course, and that the vessel was now gradually proceeding back to its planned course.

By this time, the chief officer had woken up but was requested by the master to get some rest in his cabin. The master also noticed that bridge navigational watchkeeping alarm system (BNWAS) was switched off. However, he could neither recollect whether he had switched it on or not after the vessel's departure from Mukran, nor could the chief officer recollect its status, when he took over the navigational watch from the master at midnight.

Environment

At the time of the incident, the weather was calm and clear. Twilight conditions prevailed under a clear sky, with good visibility. A gentle Northwesterly breeze was present, with smooth sea and no noticeable swell. The air temperature was recorded at 16 °C.

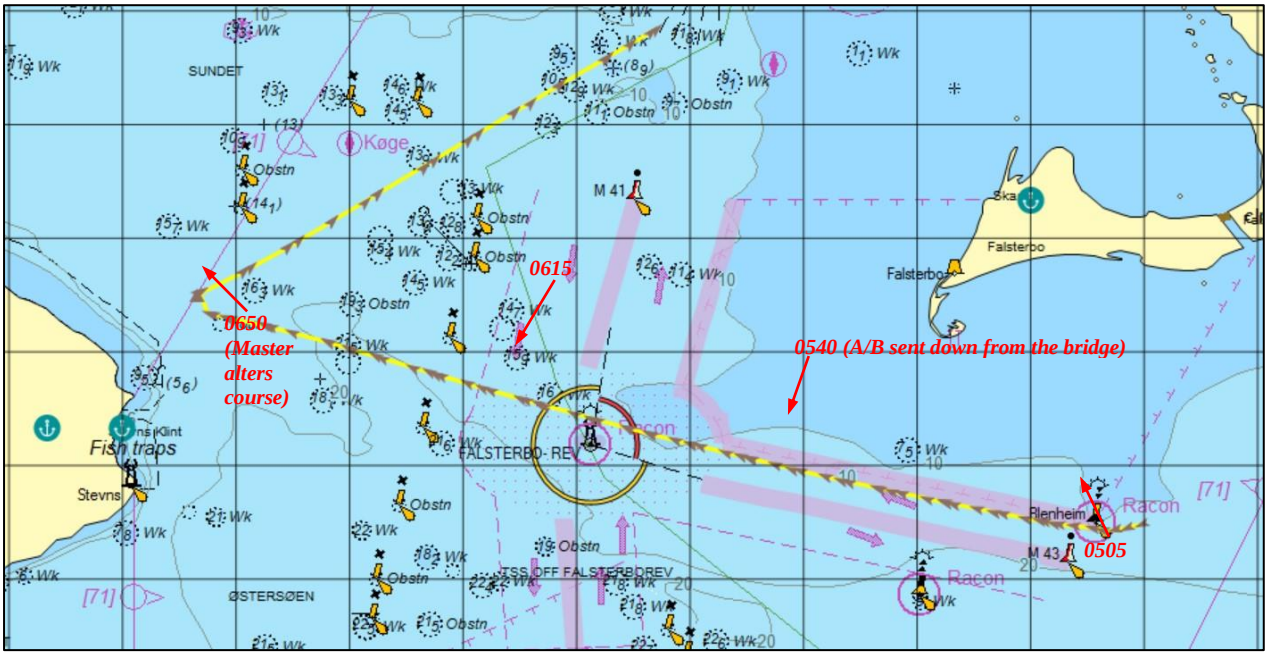

Figure 3: *Kairit*'s track from about 0500 to about 0800 (vessel's time), on 13 October 2024

(annotated by the MSIU)

Source: European Maritime Safety Agency (EMSA)

ANALYSIS

Aim

The purpose of a marine safety investigation is to determine the circumstances and safety factors of the accident as a basis for making recommendations, and to prevent further marine casualties or incidents from occurring in the future.

Near-grounding

Kairit was at risk of running aground during a lapse in active navigational watch, during which the officer on watch inadvertently fell asleep. The grounding was avoided by the master's timely actions, when he happened to go to the bridge to take over the navigational watch.

The chief officer recalled that after 0500, he started feeling tired, so he sat on the port side bridge chair. At some point, after the AB left the bridge for the safety rounds, he dozed off on the chair. The chief officer attributed this to high workload during the previous day, at the port of Mukran.

Fatigue

The chief officer's work / rest hour records indicated that his rest periods met the requirements of the Seafarers' Training, Certification and Watchkeeping (STCW) Code, as amended. However, the safety investigation was unable to verify the quality of these rest periods, in terms of uninterrupted, good quality sleep.

The master and the chief officer were on contracts of two months on board and two months of vacation leave[4]. The Company explained that these arrangements were in place to minimise the chances of fatigue, in consideration of the vessel's short voyages.

[4] The embarkation / disembarkation of the crew members would depend on whether the vessel would be at a convenient port at that time, or not. To this effect, there were instances when the embarkation / disembarkation was delayed by up to one month.

While the chief officer confirmed feeling tired around the time of the occurrence, the safety investigation had no strong and clear indications of fatigue. Rather, he actually reported feeling fresh and well rested on the following morning, after getting his scheduled rest. The safety investigation was also informed that there were no other instances of recurrence during the rest of the voyage.

The safety investigation lacked the necessary information to analyse the factors associated with fatigue, albeit it was not dismissed. The unavailability of information on hours of *quality sleep* meant that the possibility of sleep deprivation on board, being a chronic concern, could not be analysed in detail.

The available information indicated that the chief officer felt well rested the following morning, with no further reported issues. *A prima facia*, this could suggest that the sleep deprivation, which the chief officer had experienced, could have been a short term issue, affecting one particular very early morning.

Sleep deprivation can happen either because of lack of sleep hours, or else because of lack of good quality sleep. Sleep duration and sleep quality are important to ensure restorative sleep, and although there was no information on potential long-term sleep deprivation, the safety investigation was of the view that this was not to say that the crew members had not experienced instances of tiredness. In fact, the OOW falling asleep in his chair on the bridge during his watch, may be considered as one such instance.

Therefore, while the chief officer appeared well-rested the following morning, this alone did not eliminate fatigue as a contributing factor. Fatigue can be cumulative, and one night of good rest does not negate the effects of prior sleep loss. A more comprehensive assessment of overall sleep patterns, workloads, and other signs of fatigue, would have been necessary. In the absence of such

data, the safety investigation did not dismiss fatigue solely on the basis of a mere reported instance of restfulness following the incident.

Vessel's manning and accommodation

The flag State Administration followed the principles of minimum safe manning, laid down in IMO Assembly Resolution A.1047(27). While the principles ensure that the relevant conventions are complied with and hours of rest are respected, the safety investigation had concerns on whether the manning levels on board addressed the reality of the vessel's operations, be it cargo, and / or navigation.

This occurrence revealed how crew behaviour suggested possibilities of disproportionate workloads, as manifested in their actions. The safety investigation was interested in the matter due to the following reasons:

- while minimum crew levels were met, crew members remained susceptible to loss of sleep and stress;
- certain behaviour on board suggested less than optimal physical and mental health;
- the intrinsic link between personal wellbeing and manning on board appeared weak; and
- the Company neither employed nor was it required to employ reliable methods to confirm the effectiveness of hours of rest and, equally important, hours of good quality, uninterrupted sleep.

The Flag State Administration maintained that, regardless of any manning attestation, ship managers remained responsible for ensuring that manning levels meet the commercial and operational needs of their vessels, as they were best placed to assess trading patterns and requirements.

Concerns arose within the flag State Administration when observations of crew behaviour suggested potential systemic issues. During the safety investigation, the flag State Administration provided a chronological account of the concessions made, observed deficiencies and subsequent re-flagging of the vessels from the Maltese flag.

The flag State Administration explained how it observed a gap between its past expectations and the current realities of the Company. It explained further that initially, the vessels were granted manning exemptions based on specific justifications, such as ships being relatively new, previous approvals, and on board accommodation constraints. However, a number of casualties and deficiencies indicated that these justifications could have become untenable. It was the grounding of *Kairit* that prompted the flag State Administration to undertake decisive action.

The granting of the flag State's exemptions was contingent upon high Company performance and a restricted trading area. The Administration provided conditional flexibility but expected strict adherence to safety and operational standards. However, the number of casualties and flag State inspections identifying deficiencies and even detentions, underscored systemic safety concerns. *Kairit*'s OOW falling asleep and leading to the near grounding exemplified the operational risk of the manning levels employed on board.

In fact, it appeared to the safety investigation that fresh exigencies made by the flag State Administration, may have had economic and operational consequences for the Company, prompting a re-flagging strategy to be adopted. The safety investigation was of the view that the necessity to grant exemptions, had to be balanced with a long-term policy, which oversaw the vessel and Company's performance.

It appeared to the safety investigation that while exemptions were justifiable initially, it was critical to anticipate a potential deterioration in compliance, thereby avoiding an eventual reactive rather than proactive regulatory approach.

The safety investigation was also informed of an observed contrast between the flag State inspections (which found numerous deficiencies) and relatively clean port State control inspections. To the MSIU, this suggested inconsistencies in the employed enforcement mechanism.

Whilst minimum safe manning does not necessarily mean optimal, the MSIU observed an important limitation in that the vessel had just eight cabins without any bunk beds, thereby restricting the maximum possible manning of the vessel to eight. However, this brought to light potential issues with the ship's operations and trading patterns, and the design philosophy of the vessel and its accommodation block.

In view of the above, the safety investigation considered the vessel's manning level employed on board, as well as the accommodation capacity, which limited the manning levels, as contributory factors to this occurrence.

Moreover, it has to be highlighted that while the Minimum Safe Manning Certificate included a condition for an additional navigational watchkeeping officer when operating in certain trading areas, the vessel's accommodation constraints rendered compliance with this requirement impractical. Consequently, the vessel was inherently limited in its operational scope.

Watchkeeping arrangements

At sea, the chief officer kept navigational watches between 0000 and 0700, and 1200 and 1700, with the master keeping a watch during the remaining periods. At port, both the master and the chief officer were on daywork, *i.e.*, from 0800 to 1700, with an hour-long lunch break at 1200. However, when events such as port arrival and departures, cargo operation commencement and completion, cargo hold inspections, *etc*., would take place beyond these periods, it was expected that the master and / or the chief officer were to remain awake and be involved, as necessary.

Additionally, the master informed the safety investigation that in all ports, cargo operations usually commenced in the morning and would be suspended in the evening, following which, the deck watches would be maintained by the ABs, while the master and chief officer rested. The ABs watchkeeping arrangement at sea and in port consisted of four hours of watch, followed by eight hours of rest.

One would expect the master and the chief officer to maintain 'traditional' watchkeeping periods of six hours of watch, followed by six hours of rest. However, the Company, the master, and the chief officer preferred their current arrangement.

The chief officer's work schedule at Mukran

Kairit arrived at Mukran at 1030, on 11 October 2024. The chief officer would have been awake from around this time until at least 1750, when cargo loading operations commenced.

Cargo operations were suspended at 2300, and resumed at 0720 on 12 October, which indicated that the chief officer would not have had to keep watch and could continue resting until the operations were resumed.

On 12 October, cargo operations were completed at 1820, following which, the vessel was prepared for departure. The main engine was ready at 2100 and at 2200, the vessel departed from Mukran. The chief officer went to rest after departure and then took over the navigational watch at midnight.

This indicated that the chief officer, while resting well from the evening of 11 October to the morning of 12 October, would have been awake from about 0700 until 2200, and then rested for approximately two hours prior to his navigational watch.

In the opinion of the safety investigation, even if the chief officer managed to get two full hours of quality sleep (which was improbable), this short rest period may have not provided him with adequate rest to keep a sharp watch for the next seven hours. The safety investigation, therefore, considered the chief officer's work schedule at Mukran, which extended beyond the planned watchkeeping arrangements, as a contributory factor to the occurrence.

Sole lookout and the BNWAS[5]

The information available to the safety investigation suggested that the crew member was asleep and the various calls on the bridge did not wake him up. The master recalled that as soon as he entered the bridge, he could hear the vessel's mobile phone ringing, VHF DSC alarms, and frequent VHF radio calls to the vessel. The lookout had left the bridge at about 0540, and the master arrived at approximately 0650.

Assuming that the OOW sat on the chair soon after the lookout left the bridge and was fast asleep minutes later, it can be concluded that he had been asleep for approximately one hour before the master arrived on the bridge. Dividing the sleep cycle into four stages, it was highly probable that the OOW was in stage 3 of the cycle, *i.e.*, in the deep sleep part during which, it would have been very hard for him to wake up.

When the chief officer had sent the AB from the bridge for the routine safety round and sounding of the cargo hold bilges, it was twilight. Moreover, at the time, the vessel was navigating in a TSS.

The absence of the lookout from the wheelhouse may be interpreted in two distinct but not necessarily mutually exclusive ways. On one hand, it could suggest a normalisation of deviance *i.e.*, a possible erosion of the perceived criticality of the lookout role, where routine practices begin to drift from procedural expectations.

On the other, it may reflect a situational necessity, where the OOW faced competing demands, *i.e.*, the requirement for safety rounds in the accommodation, leading to a context-driven decision, influenced from what seemed necessary at the time.

Rather than viewing this as a failure of compliance with prescribed international maritime requirements, the safety investigation considered this as an example of adaptive behaviour under system constraints. For the purpose of the safety investigation, the lookout's absence is thus less a sign of 'complacency' and more a symptom of systemic pressures that challenge the capacity for safe performance by the OOW across multiple, simultaneous responsibilities.

Additionally, as was the case in several past grounding accidents investigated by the MSIU and other accident investigation authorities, *Kairit*'s BNWAS was also switched off. Here, too, it appeared that the unavailability of the BNWAS, as a preventive barrier system, was not a concern for the crew members.

The absence of a lookout and the unavailability of the BNWAS were, therefore, considered as contributory factors to this occurrence.

[5] The most recent safety investigation report in which the MSIU highlighted the importance of a lookout and the BNWAS, was Marine Safety Investigation Report No. 05/2024.

CONCLUSIONS

1. *Kairit* was at risk of running aground during a lapse in active navigational watch and during which, the officer on watch inadvertently fell asleep.
2. The grounding was avoided by the master's timely actions, when he happened to go to the bridge to take over the navigational watch.
3. The OOW recalled that after 0500, he started feeling tired, so he sat on the port side bridge chair.
4. Although the OOW felt rested after a night's sleep, fatigue was not dismissed.
5. The OOW last rest period before the incident was only two hours and may have not provided him with adequate rest to keep a sharp watch for the next seven hours.
6. The bridge BNWAS was switched off at the time of the incident.
7. There was no lookout on the bridge when the OOW fell asleep.
8. The manning levels on board may have not addressed the reality of the vessel's operations, be it cargo, and / or navigation, even if they met the requirements of the Minimum Safe Manning certificate issued by the flag State Administration.
9. While exemptions were initially justifiable, it was critical for the flag State Administration to anticipate a potential deterioration in compliance, to avoid an eventual reactive rather than proactive regulatory approach.
10. The vessel had a limitation on the number of crew members which could be signed on board because of unavailable space in the accommodation block.

SAFETY ACTIONS TAKEN DURING THE COURSE OF THE SAFETY INVESTIGATION[6]

Following the incident, the Company took the following actions:

- The crew composition has been amended to ensure a more effective bridge team, consisting of a master, chief officer and one OOW;
- The vessel was attended by the Company's Safety & Quality Manager to provide target training to the crew members on safe practices related to this occurrence;
- Verification of compliance with BNWAS operating procedures has been incorporated as a mandatory check during internal audits and superintendent inspections across all fleet vessels.

RECOMMENDATIONS

Hansa Ship Management OU is recommended to:

07/2025_R1 implement a Fatigue Management Plan that ensures OOWs receive adequate good quality sleep.

Transport Malta's Merchant Shipping Directorate is recommended to:

07/2025_R2 consider revising the minimum safe manning criteria for vessels with restricted accommodation, operating in high-intensity trading patterns.

[6] **Safety actions and recommendations shall not create a presumption of blame and / or liability.**

SHIP PARTICULARS

Vessel Name:	*Kairit*
Flag:	Malta
Classification Society:	Registro Italiano Navale (RINA)
IMO Number:	9195949
Type:	General cargo
Registered Owner:	HS Kairit OU
Managers:	Hansa Ship Management OU, Estonia
Construction:	Steel – Double sides
Length Overall:	94.96 m
Registered Length:	90.05 m
Gross Tonnage:	2,997
Minimum Safe Manning:	8
Authorised Cargo:	General cargo

VOYAGE PARTICULARS

Port of Departure:	Mukran, Germany
Port of Arrival:	Immingham, United Kingdom
Type of Voyage:	International
Cargo Information:	Wheat, in bulk – 4.400 mt
Manning:	8

MARINE OCCURRENCE INFORMATION

Date and Time:	13 October 2024 – 0650 vessel's time (0550 LT)
Classification of Occurrence:	Marine Incident
Location of Occurrence:	55° 22.3' N 012° 28.7' E
Place on Board	Not applicable
Injuries / Fatalities:	None
Damage / Environmental Impact:	None
Ship Operation:	In passage – displacement mode
Voyage Segment:	Transit
External & Internal Environment:	Twilight, with a clear sky and good visibility. Northwesterly gentle breeze, with a smooth sea and no swell. Air temperature: 16 °C.
Persons on board:	8

The vessel has been deleted from the Maltese Register on 01 November 2024, at the owners' request.