

Grounding of **K-WAVE** near Malaga, Spain 15 February 2011

SUMMARY

At 0546 (UTC+1) on 15 February 2011, the feeder container vessel *K-Wave* (Figure 1) ran aground 13 miles east of Malaga on the south Spanish coast, while on passage from Algeciras to Valencia. At the time of the grounding she was proceeding at full speed, and the bridge was unmanned.

The Spanish coastguard attempted to contact the vessel on very high frequency (VHF) radio shortly after the grounding but received no response until 0630, when the master initially denied that the incident had occurred. The coastguard mobilised rescue services to attend the vessel that included a helicopter, lifeboat and salvage tug.

Spanish authorities boarded later that day, inspected the vessel and found no signs of damage. On 16 February, the owners' salvage plan was approved by the authorities and *K-Wave* was refloated the same day with the assistance of a powerful salvage tug. She was then escorted to Malaga, where a classification society survey confirmed that her hull had not been damaged by the incident. *K-Wave* was given approval to resume service the following day.

Although the crew were interviewed following the incident, the investigation of the grounding relied on evidence gathered from the vessel's voyage data recorder (VDR) for an accurate account



Figure 1

K-Wave

Extract from The United Kingdom Merchant Shipping (Accident Reporting and Investigation) Regulations 2005 – Regulation 5:

“The sole objective of the investigation of an accident under the Merchant Shipping (Accident Reporting and Investigation) Regulations 2005 shall be the prevention of future accidents through the ascertainment of its causes and circumstances. It shall not be the purpose of an investigation to determine liability nor, except so far as is necessary to achieve its objective, to apportion blame.”

NOTE

This report is not written with litigation in mind and, pursuant to Regulation 13(9) of the Merchant Shipping (Accident Reporting and Investigation) Regulations 2005, shall be inadmissible in any judicial proceedings whose purpose, or one of whose purposes is to attribute or apportion liability or blame.

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of events. It was found that several officers had congregated on the bridge at around midnight on 14 February to celebrate an officer's birthday. Their celebrations concluded at about 0200, when the officer of the watch (OOW), who had joined in the celebrations, was left alone on the bridge. At 0216 the vessel's heading was altered from 080° to 305° and she maintained that course until she grounded at 0546. The chief officer entered the bridge at 0606 and found the vessel hard aground, the bridge unmanned and the main engine running at full ahead.

In June 2010 the International Maritime Organization (IMO) agreed to amend the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978 (STCW 1978) to establish alcohol limits for seafarers. It is hoped that these amendments, which will enter force on 1 January 2012, will send a strong message to coastal states, owners, operators and seafarers that excessive consumption of alcohol at sea cannot be tolerated.

No recommendations have been made by this report as the ship managers have taken action to prevent a recurrence.

FACTUAL INFORMATION

Vessel

K-Wave, a 7170gt feeder container vessel was built in 2007 and was registered in London. She was owned by K-Wave Schiffahrtsges. mbH & Co. KG, managed by K&K Schiffahrts GmbH & Co. KG, Hamburg and was classed with Germanischer Lloyd. The vessel's length was 132.69m and her loaded draught was 7.69m. She was equipped with a Sperry Navipilot ADII autopilot system, which was working correctly when the grounding occurred.

The vessel was operating a feeder container service between Lisbon and Spanish ports.

Crew

K-Wave's minimum safe manning certificate required a crew of 12, and there were 13 crew members on board at the time of the incident. The officers were mainly Ukrainian and the ratings were Filipinos. The crew had all been recruited through a manning agency, Marlow Navigation Co. Ltd of Cyprus.

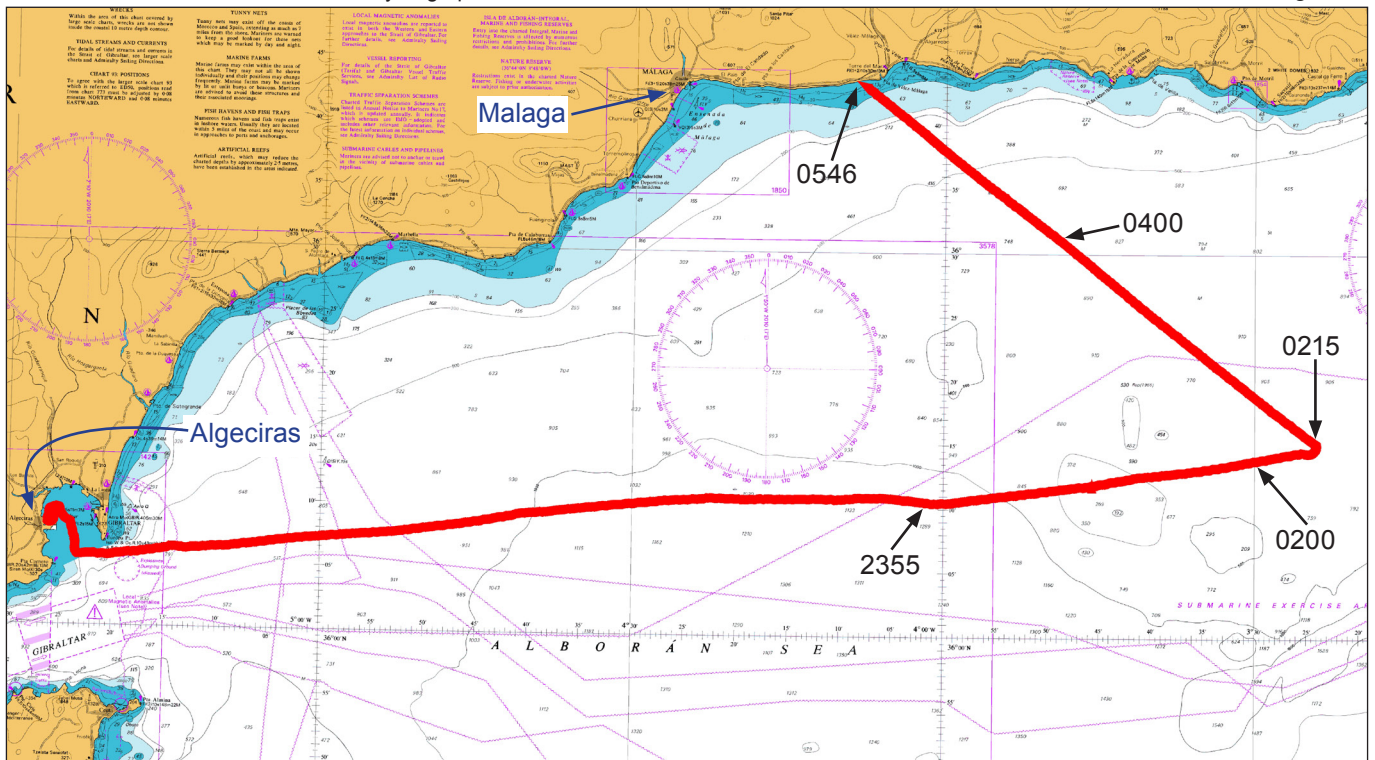
The four deck officers were Ukrainian. The master, aged 43 years, held an STCW II/2 Certificate of Competency (CoC), issued in the Ukraine and a Certificate of Equivalent Competency (CEC) as master, issued by the UK Maritime and Coastguard Agency (MCA). He had been on board for 6 weeks of a 4-month contract, and did not keep a watch.

The chief officer had joined the vessel 4 days before the incident; he held an STCW II/2 CoC and had applied to the MCA for a CEC. He kept the 4-8 bridge watch when the vessel was at sea. The second officer, aged 37 years, held an STCW II/1 CoC and a UK CEC as OOW. He had been on board *K-Wave* for 9 months and was approaching the end of his contract; he maintained the 12-4 bridge watch at sea. The third officer, who had just reached 22 years of age, held an STCW II/1 CoC and a UK CEC as OOW. He kept the 8-12 bridge watch at sea and had been on board for 3 months of a 4-month contract.

At sea, the deck officers kept bridge watches of 4 hours on, 8 hours off. In port, the second and third officers worked 6 hours on, 6 hours off to allow the chief officer to be available to oversee all cargo operations. This is a normal routine for container feeder vessels which make frequent calls in port, and it ensured that the officers had adequate opportunity for rest prior to going on watch.

Environment

The wind was south-westerly, force 5, and the sea state was moderate with a 1 metre south-westerly swell. Sunrise occurred at 0704 and low water was at 0630: the tidal range was 0.5m.



Extract from chart 0773 showing the course of K-Wave on 14, 15 February 2011

NARRATIVE

K-Wave arrived in Algeciras at 2330 on 13 February 2011 and undertook cargo operations at two container terminals within the port before departing for Valencia at 1851 the following day.

The pilot disembarked at 1906, after the vessel had cleared the port, and the sea passage was commenced at 1915. The chief officer remained on the bridge until 2000 when he was relieved as OOW by the third officer. At that time the vessel's course was 081° (**Figure 2**) and the autopilot was engaged.

An engineer came onto the bridge at 2335 and he remained there, talking to the third officer. At around midnight, the second officer and two other officers came to the bridge. The second officer took over the watch from the third officer, but no lookout was posted and the watch alarm was not activated.

The officers on the bridge then began to drink, and over the next 2 hours proposed a series of 'toasts' to celebrate the third officer's birthday in the form of an impromptu party.

At about 0200 the second officer announced that it was time for the party to break up as he needed to carry out his watch duties. Shortly after this the other officers departed and the second officer was left alone on the bridge. At some point, between 0200 and 0606, the second officer left the bridge.

At 0216, in an unscheduled departure from the passage plan, the vessel's course was altered from 081° to 305°. No alarms sounded on the bridge during this alteration of course, and the bridge remained silent until the vessel grounded at 0546 on a gently shelving, sandy, shoreline 13 miles east of Malaga. At 0557 the crew of a local fishing boat informed the Spanish coastguard that a merchant vessel appeared to have grounded.

At 0606, the chief officer entered the bridge and found it unmanned. At this time the vessel was hard aground with her controllable pitch propeller (CPP) still set to full ahead. The chief officer immediately telephoned the master to advise him of the vessel's predicament. The master arrived on the bridge at 0608, put the CPP to zero pitch, called the chief engineer and instructed the chief officer to check the vessel for damage.

At 0608 the Spanish coastguard called *K-Wave* on VHF radio and also sent her a Digital Selective Calling (DSC) message. Although the VHF call was clearly audible on the bridge and the DSC message was received, none of the officers on the bridge responded to the coastguard's call. The coastguard then tasked a lifeboat to attend the scene.

At 0620 the second officer arrived on the bridge and was questioned by the master about the circumstances of the grounding. He was unable to explain what had happened.

At 0630 the master finally responded to further VHF calls from the coastguard requesting information regarding the vessel's situation. The master initially advised that all was well on board, and that *K-Wave* was at anchor. He later admitted that the vessel was aground but then some minutes later stated that she was drifting near the coast.

The coastguard requested clarification of *K-Wave's* status, but the master did not respond until 0700 when he finally confirmed that the vessel was aground. The coastguard advised him that a rescue helicopter would arrive at daybreak, and sought confirmation that there were no injuries on board and that the vessel was undamaged. The coastguard also requested information concerning the amount of fuel oil on board the vessel.

The chief officer returned to the bridge at 0702 and informed the master that, although the hull did not appear to have been damaged, the vessel's draught had reduced by 1m forward and by 0.5m aft. The master then instructed that water ballast be pumped out from forward tanks and he set the CPP to full astern in an attempt to refloat the vessel.

At about 0930, a coastguard rescue helicopter arrived on scene (**Figure 3**) and the master advised its crew that there was no need for anyone



Figure 3

Coastguard helicopter arriving on scene

to be evacuated as no one had been injured and the situation on board the vessel was under control.

At 0945, the Malaga harbourmaster contacted the vessel and instructed the master to stop the engine, cease attempts to refloat the vessel and to await the arrival of a salvage tug and coastal state inspectors.

At 1600 a coastguard tug arrived on scene and stood by until a salvage plan had been developed by the vessel's managers and approved by the Malaga harbourmaster. The managers subsequently arranged for salvage experts and a commercial tug to attend the vessel, and at 2045 the tug *Ursus*, with a bollard pull of 216 tonnes, arrived on scene and made fast to *K-Wave*.

Ursus remained secured to *K-Wave* overnight, awaiting official approval before commencing the refloating operation. On the morning of 16 February, with the weather remaining favourable, the refloating plan was approved, and at 1315 salvage experts and coastal state inspectors boarded the vessel to supervise the refloating operation.

K-Wave's engine was started at 1320 and *Ursus* began to apply weight to the tow line. At 1640 the vessel was successfully refloated. She then proceeded to Malaga, with the tug attached, where she berthed at 2118.

An in-water survey of the hull was undertaken by divers the following day, which confirmed that there was no steelwork damage to the hull. *K-Wave* was then given classification society approval to return to service, and she sailed for Valencia that evening.

Drug and Alcohol procedure

In January 2006, the managers of *K-Wave* introduced a drug and alcohol procedure as part of the vessel's safety management system (SMS). The procedure stated that *'Abuse of alcohol and consumption of drugs constitute a severe safety risk in operation of a ship. Accordingly the abuse of alcohol and consumption of Drugs has to be prevented on board, as regulated by this documented procedure'*. [sic]

The procedure also stated that the master was responsible for implementing the following controls designed to prevent alcohol abuse on board:

'(1) For ship safety and prevention of accidents consumption of alcohol is strictly prohibited during working hours.

(2) Personnel on duty have to limit consumption of alcohol to guarantee not to be under alcohol influence at the beginning of their duty.' [sic]

As part of its package of measures to control the consumption of alcohol on its ships, the managers also issued the following guidance:

'The Masters have to control the consumption in use of alcohol and are requested to give written warning to all crew members who are not behaving to before mentioned rules. In case of re-occurrence or in heavy cases the respective crewmembers must be dismissed immediately'. [sic]

There was no procedure in place or equipment on board *K-Wave* to test the crew for alcohol consumption, either following an accident or on a random basis.

ANALYSIS

The passage

On board *K-Wave*, normal watchkeeping practices ceased from midnight on 14 February when a group of officers gathered on the bridge to celebrate the birthday of one of the officers.

The account of events that night provided by those involved, including senior officers, was not consistent with the VDR record of events. As none of those involved was tested after the grounding for drug and alcohol consumption, it cannot be stated as fact that alcohol was being consumed. Further, there were no independent witnesses to the party as there was no lookout posted. However, from the VDR recording of the noise of the party and the conversations, including the regular 'toasts' and references to the collection of further supplies, it is reasonable to conclude that large quantities of alcohol were being consumed on the bridge that night.

At 0216, shortly after the party ceased, the vessels' heading was altered from her planned track onto a course which eventually took her to shore. This alteration of course resulted in a smooth turn to port, with no vibration noted on the VDR. This suggests that the alteration of course was conducted using the autopilot, which had a pre-set limit for a rate of turn of 20 degrees/min. Once the alteration had been completed, the autopilot was re-engaged to steer the vessel on her new course of 305° until the grounding occurred. From this, it may be concluded that the alteration of course was not accidental or unintentional, but resulted from a deliberate manipulation of the autopilot controls. Whether the turn was conducted maliciously or as a prank, cannot be determined.

No assumptions can be made about the quality of lookout that was being kept during the party. However, once the deviation from the original navigational track had been completed at 0221, there is no evidence to indicate that anyone was then on the bridge until 0606, 20 minutes after the vessel had grounded, when the chief officer arrived. During this time no lookout was being kept, and there was no possibility that *K-Wave's* course could be altered to avoid a collision with another vessel.

K-Wave steamed almost 50 miles, at full speed and with no one on the bridge, before grounding. While it was unlikely that this was the intended outcome when the party on the bridge started, the consequence of the officers' actions was that all the barriers against unsafe operation put in place by international regulation, and by the managers in the vessel's SMS, were bypassed. In electing to hold a party on the bridge while the vessel was on passage, many of the ship's officers acted in a highly irresponsible manner that placed *K-Wave*, her crew, and any other vessels in her vicinity, at considerable risk.

Use of Lookout

The master's response to the grounding

K-Wave had been aground for 22 minutes when the master arrived on the bridge at 0608, just as the Spanish coastguard called the vessel on VHF and via DSC message. However, the master chose not to respond for a further 22 minutes, during which the chief officer and chief engineer were organising checks of the vessel. When the master did answer the coastguard's calls, he initially denied that the vessel was aground. At this point,

the master did not have a clear picture of whether or not his vessel was damaged, and his untruthful reply to the coastguard unnecessarily delayed any emergency response that might have been needed.

It is of paramount importance that the relevant authorities of the nearest coastal state are quickly informed of any emergency that may occur on a vessel. The master's reluctance to do so in this instance is strongly indicative of his desire to avoid close attention from the authorities while he tried to resolve the situation.

Notwithstanding the master's initial denial that *K-Wave* was aground, the Spanish coastguard responded efficiently in mobilising its emergency services and had the capability in place to evacuate the crew in a timely manner had that been required.

Use of Lookout

K-Wave was in an excellent fabric condition and the owners emphasised to their masters, in pre joining instructions, the importance of keeping her in a '*high maintenance condition*' at all times. Previous MAIB accident reports have found that lookouts were sometimes not posted at night so that additional men would be available for fabric maintenance duties during the day. Fabric maintenance should not take precedence over safety, and maintenance-related instructions should be balanced with the caveat that the safe operation of the vessel must always take precedence.

Alcohol consumption on board

The master and crew of *K-Wave* were aware that the company's SMS did not permit the excessive consumption of alcohol at sea, and that UK law sets stringent alcohol limits for seafarers¹. However, neither of these provisions was sufficient to modify their behaviour, presumably because they assessed that there was little chance of any alcohol consumption being detected. In this case, even after a high profile accident, the coastal state inspectors, that boarded *K-Wave* several hours after the grounding, did not check the officers and crew for alcohol consumption because Spanish law did not empower them to do so.

¹ Railways and Transport Safety Act 2003, s.78, s.79, s.81.

The fact that some countries do not currently have legislation in place to test seafarers for alcohol consumption following accidents, has been addressed by the IMO, which in June 2010 agreed amendments to STCW 1978. These amendments, effective from 1 January 2012, will require administrations to establish limits of not greater than 0.05% blood alcohol level or 0.25mg/l alcohol in the breath for masters, officers and other seafarers while performing designated safety, security and marine environmental duties. It is hoped that the amendments to STCW 1978 will send a strong message to seafarers that excessive consumption of alcohol at sea should not be tolerated as well as provide encouragement to coastal states to be more proactive in testing for the presence of alcohol following accidents on ships.

CONCLUSIONS

1. In electing to hold a party on the bridge while the vessel was on passage, many of the ship's officers acted in a highly irresponsible manner that placed *K-Wave*, her crew, and any other vessels in her vicinity, at considerable risk.
2. The master's reluctance to contact the nearest coastal state immediately the emergency occurred is strongly indicative of his desire to avoid close attention from the authorities while he tried to resolve the situation.
3. The shocking nature of this incident, that put many lives and potentially, other vessels at risk, makes a powerful argument for the IMO's new regulations limiting alcohol consumption by seafarers to be widely and robustly applied.

ACTION TAKEN

K&K Schiffahrts GmbH & Co. KG has:

- Conducted an internal investigation, dismissed the officers involved in the accident and has introduced random alcohol testing on board its vessels.
- Reviewed its SMS to ensure that the requirement to conduct on board maintenance does not conflict with any statutory obligations including the maintenance of lookout and the provision of adequate rest.

RECOMMENDATIONS

In view of the actions taken, this report makes no further recommendations.

SHIP PARTICULARS

Vessel's name	<i>K-Wave</i>
Flag	United Kingdom
Classification society	Germanischer Lloyd
IMO number	9414137
Type	Container
Built	2007
Registered owner	K-Wave Schiffahrtsges. mbH & Co. KG
Manager	K&K Schiffahrts GmbH & Co. KG
Construction	Steel
Length overall	132.69m
Registered length	122.17
Gross tonnage	7170
Minimum safe manning certificate	12
Authorised cargo	Containers

VOYAGE PARTICULARS

Port of departure	Algeciras, Spain
Port of destination	Valencia, Spain
Type of voyage	Short international voyage
Cargo information	Loaded
Manning	13

MARINE CASUALTY INFORMATION

Date and time	15 February 2011, 0546 (UTC+1)
Type of marine casualty or incident	Serious Marine Casualty
Location of incident	13 miles east of Malaga, Spain
Injuries/fatalities	Nil
Damage/environmental impact	Minor hull bottom paintwork damage. No environmental damage
Ship operation	On passage
Voyage segment	On passage
External & internal environment	Dark (Sunrise 0704), wind westerly force 5, moderate swell (1m), Low water 0630, tidal range 0.5m, negligible tidal stream. No-one on the bridge at the time of grounding.
Persons on board	13