

Extract from The United Kingdom Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 – Regulation 5:

“The sole objective of the investigation of an accident under the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012 shall be the prevention of future accidents through the ascertainment of its causes and circumstances. It shall not be the purpose of such 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 14(14) of the Merchant Shipping (Accident Reporting and Investigation) Regulations 2012, 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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**Fatal man overboard from the trawler
VIDAR
off Milford Haven
28 January 2013**

SUMMARY

At 1536 UTC on 28 January 2013, a deckhand was washed overboard from the Belgium registered beam trawler *Vidar* in very rough seas. The deckhand was recovered from the water about 11 minutes later but he could not be revived.

Factors that contributed to the accident include:

- The environmental conditions and the vessel's design made it hazardous for the crew to work on the open deck, but the risk was not properly assessed.

- The crew had great difficulty in recovering the deceased from the water because the vessel did not carry any dedicated means of recovering a man overboard and the crew had not completed any onboard man overboard drills.
- The deceased's chances of survival were reduced by cold water shock and by not wearing a lifejacket.

As the Belgium Federal Public Service Mobility and Transport has undertaken to improve the regulation of fishing vessels in areas relevant to this accident, no recommendations have been made.



fv *Vidar*

FACTUAL INFORMATION

Narrative

At 1445 on 28 January 2013, the Belgian beam trawler *Vidar* was returning to Milford Haven at the end of a 5-day fishing trip. The vessel was on a northerly heading towards Milford Haven, Wales (**Figure 1**). The autopilot was engaged and *Vidar* was making good a course of 014° at a speed of 11 knots. The wind was gusting up to 50 knots from the south-south-west and the sea swell was 5m from the south-west. The tidal stream was setting to the east at 0.7 knots. To help stabilise *Vidar*'s movement in the very rough seas, the vessel's derricks had been lowered to an angle of approximately 80° from the vertical.

The skipper was in the wheelhouse finalising both paper-based and electronic versions of the vessel's catch records. Meanwhile, the mate, engineer, two able seamen (AB) and an ordinary seaman (OS) were on the main deck sorting the catch and repairing the trawl gear. A trainee was also on board, but the skipper had sent him inside the accommodation due to the adverse conditions; waves were breaking over the gunwales and running down the walkways either side of the deckhouse. The deck crew were wearing oilskins, except the engineer who was wearing a one-piece thermal over-suit. None of the crew was wearing a lifejacket.

At 1525, when *Vidar* was about 5.7nm south of Saint Ann's Head (**Figure 1**), the mate left the main deck and went to the wheelhouse. He told the skipper that the conditions were too dangerous for the crew to work on the deck. The skipper immediately opened the centre wheelhouse window and shouted to the crew below to return to the accommodation for a coffee until the vessel was in calmer waters.

In response, the two ABs, one of whom was Luc De Craemer, put their tools away, then walked aft along the starboard side of the main deck in order to climb the stairway (**Figure 2**) to the boat deck and access the accommodation through the wheelhouse. As the two men walked between the deckhouse and the starboard gunwale, a wave hit the vessel on the port quarter and *Vidar* rolled heavily to starboard. The starboard gunwale was immersed under the sea and a large volume of swirling water engulfed the walkway. Luc reached out for a handhold on the deckhouse door (**Figure 2**) while the second AB, who was just behind Luc,

grabbed the deckhouse handrail. Luc and the AB were rapidly lifted off their feet by in-rushing water. The AB was able to maintain his grip on the handrail but, at about 1536, Luc was swept overboard into the sea (**Figure 3**).

As *Vidar* rolled back to port, the water on deck drained through the freeing ports and the AB saw Luc in the sea keeping himself afloat. The AB shouted "*Luc*" before running up the stairway to the boat deck and throwing a lifebuoy, attached to a smoke float, over the side. At the same time, the engineer, who was still on the main deck, shouted "*man overboard*" to the skipper in the wheelhouse. The skipper immediately reduced the engine speed. He then looked out of the starboard wheelhouse windows and saw Luc in the water. The skipper increased the vessel's speed and put the helm hard to starboard. The engineer and mate were both able to keep Luc in sight and they passed information about his position relative to *Vidar* to the skipper.

By 1543 (**Figure 3**), the skipper had manoeuvred *Vidar*'s port quarter to between 10m and 15m from Luc, who was floating on his back and was waving his arms. The mate threw a recovery rope from a lifebuoy to Luc, which he managed to catch. At this point, Luc seemed to stop moving and appeared to swallow seawater.

As Luc was pulled towards *Vidar* with the recovery line, a pilot ladder was put over the boat deck rail on the port quarter (**Figure 4**); the top of the ladder was about 4m from the waterline. The AB climbed part way down the ladder and held out his hand as the vessel moved up and down in the waves, but he was unable to reach Luc.

The skipper left the wheelhouse and told the AB to return on board. The ladder was then moved to the main deck below the port stairway where the vessel's freeboard was approximately 0.9m. As Luc was pulled forward towards the re-positioned ladder, he briefly disappeared underneath the vessel as it rolled, and he hit his head on the curvature of the steel hull. When he re-appeared he seemed to be unconscious and had let go of the rope.

The engineer immediately grabbed a second lifebuoy and jumped overboard. He quickly supported Luc and used the recovery line to pull both of them towards the vessel. As *Vidar* rolled to port, the skipper and two of the crew reached over the gunwale and managed to grab Luc and lift him

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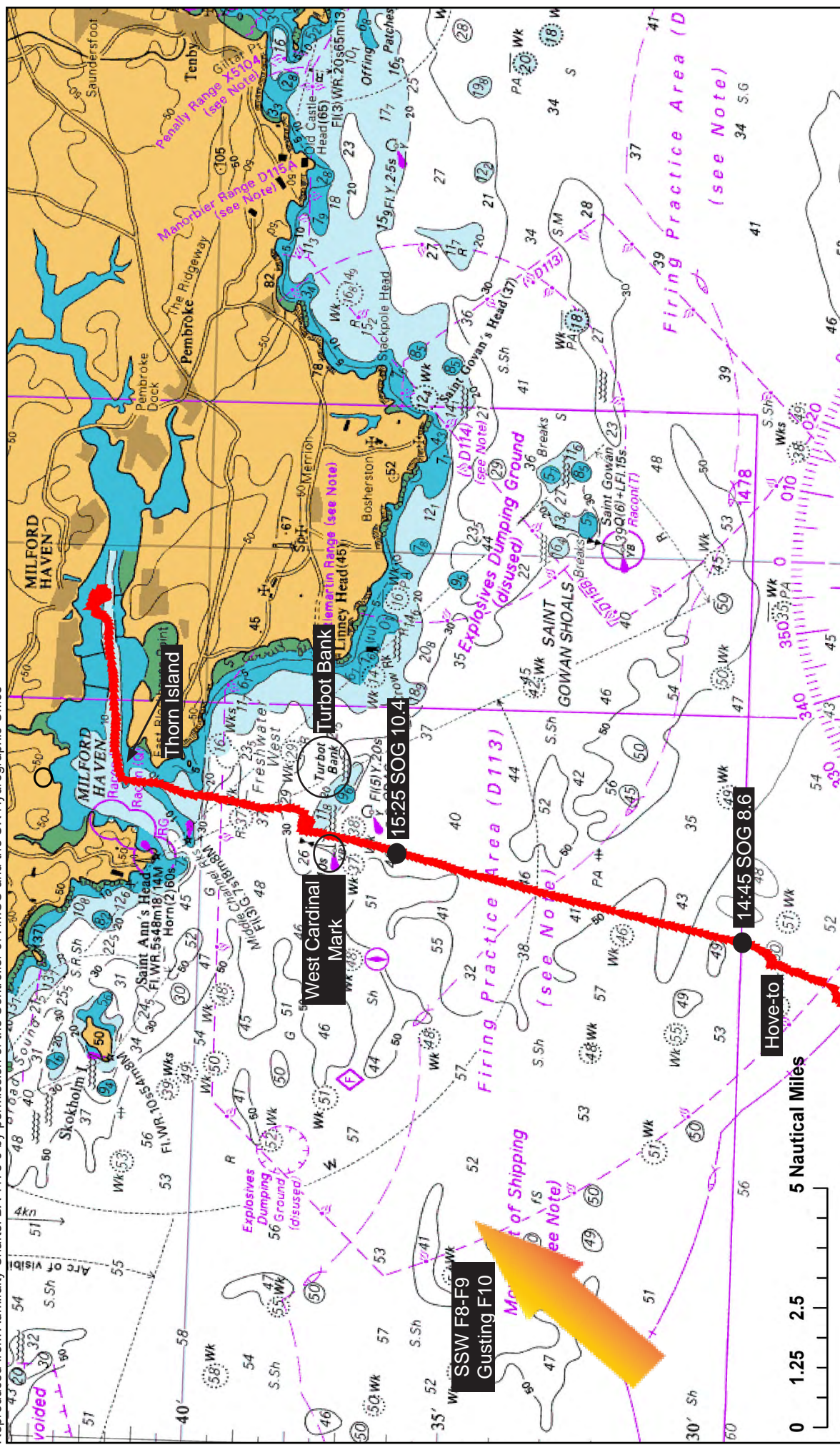


Figure 1: Vidar AIS track



Figure 2: Starboard walkway

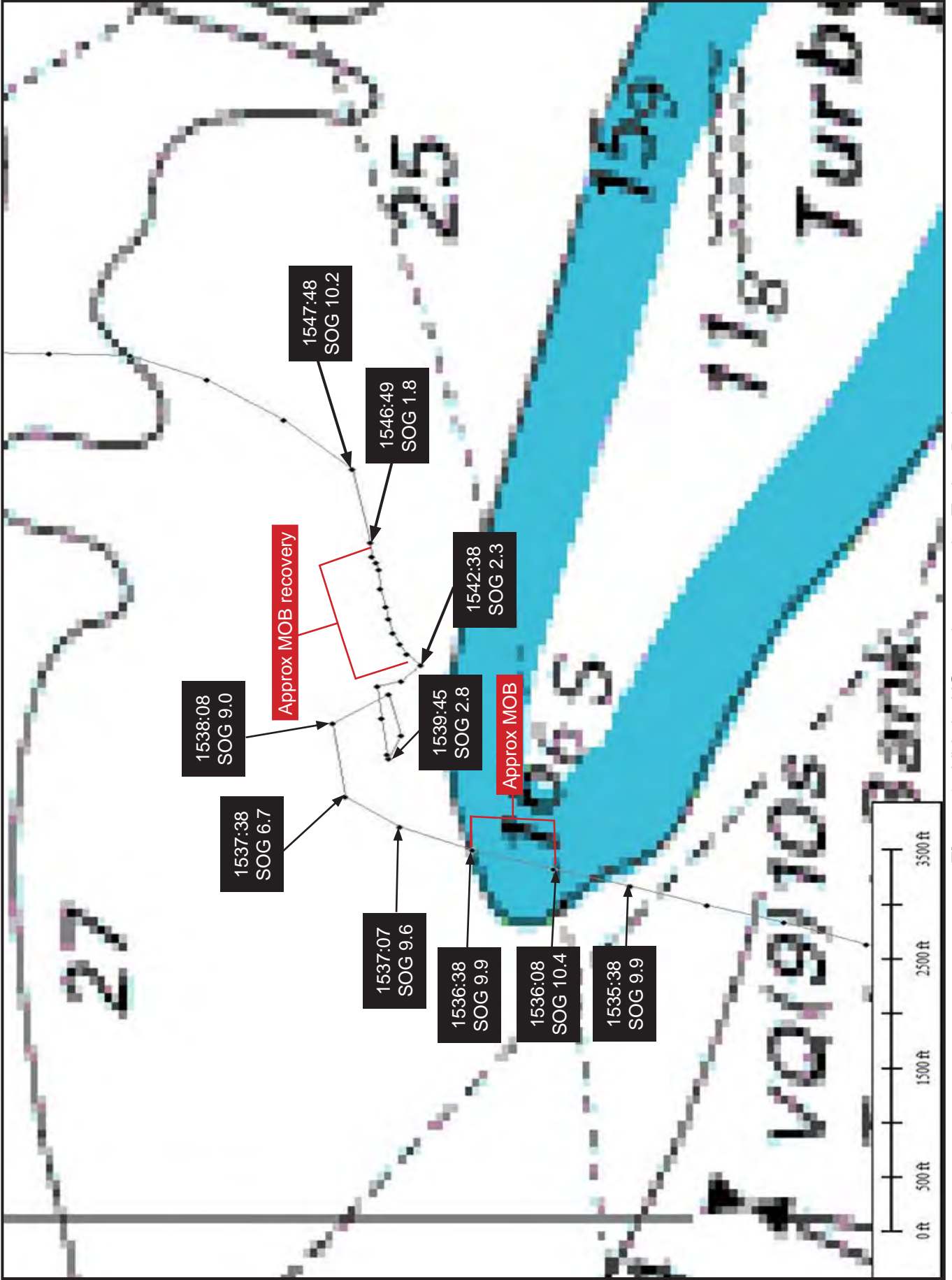


Figure 3: Vidar's AIS track across the Turbot Bank

Image courtesy of Ronald Ribbe, www.rorifocus.nl

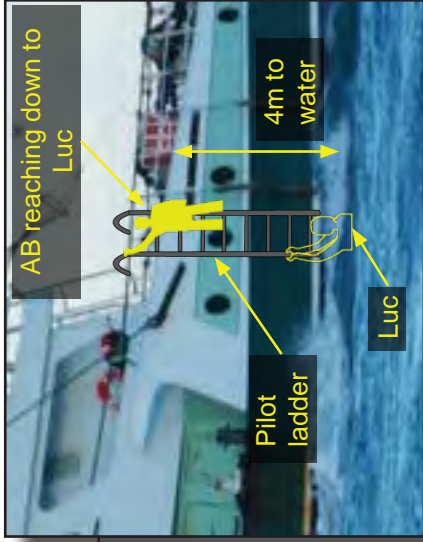


Figure 4: Pilot ladder from port quarter

on board; he appeared lifeless. They then pulled the engineer on board. Luc was taken into the accommodation, where the crew began cardio-pulmonary resuscitation (CPR).

Meanwhile, the skipper returned to the wheelhouse. At about 1547, *Vidar's* passage towards Milford Haven was resumed at full speed. The mate then took over the wheelhouse watch to enable the skipper to assist with Luc's CPR.

At 1551, the mate advised Milford Haven coastguard of the man overboard via Very High Frequency (VHF) radio channel 16. Within 5 minutes, a Royal Air Force (RAF) rescue helicopter (R169) and the Royal National Lifeboat Institution (RNLI) all-weather lifeboat in Angle had been tasked to assist.

At 1620, *Vidar*, escorted by the pilot vessel *Skomer*, reached sheltered waters in the vicinity of Thorn Island (**Figure 1**). Shortly after, two crewmen from the RNLI lifeboat transferred to *Vidar* and took over the CPR on Luc. At 1650 Luc was winched on board R169 and was taken to Withybush Hospital, where he was declared deceased at 1732.

Postmortem examination

The postmortem examination report concluded that Luc:

Died as a result of drowning with the development of severe pulmonary oedema and eventual cardiac arrest. Head trauma may also have partly contributed to the death but it was not a major factor.

The report also included:

Methadone¹ was detected in the blood sample taken from Mr De Craemer and the concentration was consistent with therapeutic use.

and

Cannabinoids² were detected in the blood and the results show that Mr De Craemer had used cannabis and/or cannabis resin fairly recently and that he may have been experiencing some effects at the time of the incident.

Vessel operation

Vidar operated out of Milford Haven during the winter months, trawling just outside the UK 12nm territorial limit. In common with many other Belgium registered beam trawlers, eight tows were completed each day. The catch from each tow required about 75 minutes to sort and pack during which time all the crew would be at work on the deck. Consequently, the crew had less than 2 hours to rest and eat after each haul before turning out to handle the next haul.

Crew and training

With the exception of the trainee, *Vidar's* skipper and crew joined the vessel on 19 January 2013; the trainee joined 4 days later. The skipper and crew worked a flexible rota of between 5 and 9 days on board depending on factors such as catch size, market dates, crew preferences and the capacity of the lorry which took the catch from Milford Haven to Belgium. The skipper held a skipper's certificate of competency issued by the Belgium administration and had been the skipper of *Vidar* since 2004; he was authorised by Milford Haven port authority to navigate *Vidar* within the port limits.

Luc was 45 years old and first joined *Vidar* in October 2012. He had been a fisherman for many years but he had also spent several long periods ashore. Luc had a history of drug abuse; it is not known if he was on a drug rehabilitation programme at the time of the accident.

All of *Vidar's* crew had completed the mandatory safety training required by the Belgium flag administration, which includes personal safety and survival at sea in line with Chapter VI of the Standards of Training, Certification and Watchkeeping (STCW) Convention and Code.

¹ Methadone is a powerful opioid analgesic drug prescribed for the relief of severe pain. It is also used as a substitute for morphine and heroin in the management of drug relief programmes. Central nervous system depressant effects such as sedation and drowsiness may occur with normal use. Toxic effects of methadone overdose include stupor, hypotension and respiratory depression leading to coma and circulatory collapse.

² Cannabinoids are a group of terpenophenolic compounds present in Cannabis.

Personal Flotation Devices (PFD) and man overboard recovery

Vidar had been provided with 150N self-inflating lifejackets and SEA Marshall personal locator beacons (PLB) by the Foundation for Sustainable Fishery Development (SDVO³) in Belgium. The PLB could be tracked using a receiver unit fitted in the wheelhouse. *Vidar's* crew did not wear the lifejackets when working on deck because they considered them to be uncomfortable and increased the chance of being dragged overboard if the lifejacket became snagged in the fishing gear. Consequently, the lifejackets and PLB's on board remained unused and stored within their original packaging (**Figure 5**). Due to an increasing difficulty in recruiting and retaining qualified crew, the skipper was reluctant to insist that the crew wore lifejackets when working on deck.



Figure 5: Lifejacket and PLB in original packing

ANALYSIS

The accident

Luc was swept into the sea after *Vidar* had rolled heavily to starboard. With the vessel's speed at about 11 knots, the starboard gunwale was immersed in the sea and the deck area between the gunwale and the deckhouse immediately filled with water. It was not surprising that Luc either did not have the time to grab, or was unable to hold onto the deckhouse door, and was quickly taken over the side despite the gunwale being 1.06m high. Indeed, it was fortunate that the other AB was not swept into the sea as well.

At the time, *Vidar* was running with the swell waves predominantly approaching on the vessel's port quarter. However, the vessel was also crossing the western edge of the Turbot Bank, where the shoaling seabed is likely to have caused the swell waves to become steeper and less predictable. Therefore, the probability of sea water breaking over the gunwales in way of the forward end of the deckhouse, which is a phenomenon on board many Belgium registered beam trawlers of similar design, was increased. Although *Vidar's* crew were used to assessing the wave period and judging when it was safe to transit the walkways, this accident clearly shows that such action is neither an effective nor an acceptable solution.

The recovery

Prompt action was taken following Luc's loss overboard. The alarm was raised immediately, a lifebuoy with a smoke float was thrown overboard, Luc was kept in sight and the vessel was manoeuvred towards him.

Nonetheless, despite *Vidar* being manoeuvred sufficiently close to Luc for the mate to throw him a line and pull him towards the vessel's side, *Vidar's* crew had great difficulty in recovering Luc from the water. Consequently, by the time the ladder had been moved down from the boat deck quarter to the main deck, Luc was unconscious and at the limits of his endurance; his impact with *Vidar's* hull did not result in a serious injury but it undoubtedly reduced his already slim chance of survival.

³ Stichting voor Duurzame Visserijontwikkeling vzw.

The lack of an effective means of recovering a person from the water resulted in not only a significant delay in retrieving Luc from the water, but also in the AB and the engineer bravely placing their own lives at risk by, respectively, climbing down the over-side ladder and, jumping into the rough seas. In the sea conditions at the time, either of these crewmen could also have become casualties.

Means of recovery

As the sea water was less than 9°C, it is likely that Luc suffered to some extent from cold water shock⁴. The effects of cold water immersion on the human body, and the consequent inability to swim and keep airways clear of the water, are often not recognised.

Many fishermen erroneously believe that a person falling overboard can help themselves in some way once a rope is thrown to them or a ladder is lowered. However, MAIB investigations have identified numerous accidents where fit and healthy persons who have fallen overboard have lost all ability to help themselves within a minute or two, due to the debilitating effects of cold water shock and ingestion of water.

If crewmen are to have any chance of surviving after falling overboard, suitable means of recovery need to be fitted or carried, and fishing vessels' crews must be practised in their use.

In this case, *Vidar* did not carry any specific means of recovering a man overboard, such as a Jason's Cradle or a Markus Net, and the crew were not drilled in the actions to take. Belgian regulation requires only vessels built after 2001 to be provided with a means of manoverboard recovery, and neither the applicable national nor international regulations require the vessel's crews to practise recovery drills.

The crew on *Vidar* did not conduct regular man overboard drills and the vessel was not fitted with a man overboard recovery system. Accordingly, their actions when Luc was swept overboard were instinctive but lacked focus. For example, Luc's

position in the water was not recorded in the GPS and no attempt to inform the coastguard was made until after Luc had been rescued from the water. Although SDVO has circulated quick release safety cards to be used on Belgian fishing vessels in the event of a man overboard, it is evident from the circumstances of this accident that more still needs to be done. As a comparison, all UK fishing vessels over 15m length overall (LOA) are required to carry out emergency drills, including man overboard, each month and when a new crew member joins⁵.

Personal Flotation Devices

Luc was not wearing a lifejacket and therefore probably only remained afloat due to air inside his lungs following an involuntary breath hold and air entrapped inside his oil skins. Although a lifejacket would not have prevented cold water shock, it would have helped to keep him afloat and his airway clear of the water, thereby reducing the likelihood of water ingestion and increasing his chances of survival.

It is astonishing that no consideration had been given to wearing lifejackets prior to the mate advising the skipper that it was too dangerous for the crew to continue working on deck. Fishermen are required by Belgian regulations to wear PFDs when working on deck, yet the lifejackets the SDVO provided to *Vidar* (**Figure 5**) were never used. In this respect, the reasons given by the crew for not wearing lifejackets are similar across the fishing industry. Although regulation and the provision of lifejackets promote the wearing of lifejackets, these actions alone are not enough. The culture of the industry also needs to change to make wearing a PFD a matter of routine.

The effect of drugs

Luc's use of methadone and cannabis when working on board a fishing vessel at sea is of great concern. The level of cannabinoids present in Luc's blood sample indicates that he had used cannabis, or cannabis resin, not long before he was washed overboard⁶. It also suggests that he

⁴ Cold water shock occurs when sudden immersion occurs in water temperatures of 15°C or below. The cold can paralyze muscles, cause muscle spasms, and a rise in heart rate and blood pressure resulting in a heart attack. The spasms and a gasp reflex can cause water to be ingested or for the breath to be held involuntarily.

⁵ See Annex to Marine Guidance Note (MGN) 430 (F) FISHING VESSELS: Checks on Crew Certification and Drills.

⁶ After smoking cannabis or cannabis resin the onset of its effects follows quickly, peaking in about 20 to 30 minutes and then gradually dissipating over the following 3 to 4 hours.

might have been experiencing some effects of the drug at the time of the accident. As these effects range between euphoria, relaxation, distortion in the perception of space and time, disturbance of memory and judgment, irritability, deterioration in co-ordination, increased heart rate and difficulty in performing 'divided attention' tasks, it is impossible to determine to what extent Luc's decision-making and actions were affected, if at all, by his drug use. Furthermore, although the sedation effects of cannabis can increase the onset of hypothermia as it affects the body's thermal control mechanism and allows the body to cool more rapidly, Luc was only in the water for about 11 minutes, which was not long enough to allow hypothermia to take effect.

Fishing vessels are dangerous places to work and all crew must be able not only to undertake their routine duties, but they must also remain fit to respond effectively in an emergency. Therefore, the use of recreational or illegal drugs that impair performance must be discouraged.

Crew safety and passage monitoring

The skipper's decision to clear the trainee from the open deck at the start of *Vidar's* passage to Milford Haven was based on the hazardous conditions experienced. Nevertheless, the conditions were evidently considered to be tolerable for the more experienced crew despite the increased risk of injury and man overboard due to the sea water breaking over the gunwales. However, as the maintenance work being undertaken was not essential and could have been completed when the vessel arrived in sheltered waters, there was no need for the crew to be on the open deck. Furthermore, the absence of lifelines and lifejackets shows that a proper risk assessment of the activity was clearly not undertaken. As a result, it took the skipper and mate a full hour to fully appreciate the hazards the crew were facing.

Although a northerly course was set on the autopilot, and *Vidar* was initially heading to the west of the cardinal buoy marking the Turbot Bank (**Figure 1**), the vessel was set to the east by the tidal stream, swell and wind. As a result, the course made good (014°) meant that *Vidar* passed to the east of the buoy and crossed the western end of the bank.

In itself this was not dangerous as *Vidar* had a draught of 4.6m and so there was ample under keel clearance. Also, in allowing the vessel to pass to the east of the cardinal buoy, the skipper avoided steering further to the west thus exacerbating the vessel's roll. Nevertheless, given the advice in the Admiralty Sailing Directions, which includes *Bad weather causes a short and dangerous sea over the bank*, this was an area to be avoided, particularly with crew working on the deck. Therefore, the failure to alter course to avoid the bank or to get the crew off the deck sooner, were significant oversights.

CONCLUSIONS

- Luc was swept overboard as *Vidar* rolled heavily to starboard and a large volume of water came over the gunwale and into the starboard walkway by the deckhouse.
- The risks to the crew on deck caused by the environmental conditions and the vessel's low freeboard were not properly assessed. The work being undertaken was not urgent and could have waited until the vessel was in more sheltered waters.
- The crew responded quickly to the emergency but had great difficulty in recovering Luc from the water. Consequently, valuable time was lost and two of the vessel's crew put themselves at risk.
- *Vidar* did not carry any dedicated means of recovering a man overboard, and the crew had not completed any onboard manoverboard drills.
- Luc's chances of survival were reduced by cold water shock and because he was not wearing a lifejacket. Lifejackets were available on board but were not worn by any of the crew.
- Luc had recently taken methadone and cannabis, but the extent to which this affected his decision-making abilities or influenced his actions is not known.

ACTIONS

The **Belgium Federal Public Service Mobility and Transport** has undertaken to:

- Introduce a requirement for its fishing vessels to operate a safety management system.
- Progress action to require Belgium registered fishing vessels to carry a manoverboard recovery system irrespective of the vessel's age.
- Enforce the wearing of lifejackets on board fishing vessels through inspection.
- Include manoverboard training within the existing mandatory training syllabus for Belgian fishermen, and require regular drills on board.
- Assess the suitability of the means of access and escape from the deck to the accommodation on board fishing vessels.
- Address the use of drugs on board fishing vessels in association with the Belgian Federation of Shipowners.

The **SDVO** has:

- Produced a safety instruction card (R&B 316) – “Why wearing an automatic inflatable lifejacket can save your life!”, and circulated it to the Belgian fishing industry.

RECOMMENDATIONS

Due to the range of actions being considered, and already taken by the Belgian administration, no recommendations are considered necessary.

SHIP PARTICULARS

| | |
|----------------------------|----------------|
| Vessel's name | <i>Vidar</i> |
| Flag | Belgium |
| Classification society | Not applicable |
| IMO number/fishing numbers | B.462 |
| Type | Beam trawler |
| Registered owner | N.V Shannon |
| Manager(s) | Not applicable |
| Construction | Steel |
| Length overall | 37.81m |
| Registered length | Not applicable |
| Gross tonnage | 385 |
| Minimum safe manning | 6 |
| Authorised cargo | Fish |

VOYAGE PARTICULARS

| | |
|-------------------|---------------|
| Port of departure | Milford Haven |
| Port of arrival | Milford Haven |
| Type of voyage | Coastal |
| Cargo information | Fish |
| Manning | 7 |

MARINE CASUALTY INFORMATION

| | |
|-------------------------------------|---|
| Date and time | 28 January 2013 1536 UTC |
| Type of marine casualty or incident | Very Serious Marine Casualty |
| Location of incident | 3nm south of Saint Ann's Head, Milford Haven, Wales |
| Place on board | Freeboard deck |
| Injuries/fatalities | One fatality |
| Damage/environmental impact | Not applicable |
| Ship operation | On passage |
| Voyage segment | Mid-water |
| External & internal environment | Wind: south-south-westerly Beaufort 6 – 9, gusting 10 Sea state: Very rough, 5m swell Sea temperature: 8.4C Air temperature: 10.1C Visibility: Moderate or good |
| Persons on board | 7 |