



**Bundesstelle für Seeunfalluntersuchung**  
**Federal Bureau of Maritime Casualty Investigation**  
Federal Higher Authority subordinated to the Ministry  
of Transport and Digital Infrastructure

## **Investigation Report 168/16**

### **Very Serious Marine Casualty**

**Fatal person-overboard accident involving a  
crew member of the fishing vessel  
PESORSA CUATRO  
150 nm west of Ireland  
on 17 May 2016**

18 February 2019

The investigation was conducted in conformity with the Law to improve safety of shipping by investigating marine casualties and other incidents (Maritime Safety Investigation Act – SUG). According to said Act, the sole objective of this investigation is to prevent future accidents. This investigation does not serve to ascertain fault, liability or claims (Article 9(2) SUG).

This report should not be used in court proceedings or proceedings of the Maritime Board. Reference is made to Article 34(4) SUG.

The German text shall prevail in the interpretation of this investigation report.

Issued by:  
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## 1 SUMMARY

On 17 May 2016, the German-flagged fishing vessel PESORSA CUATRO was fishing for crab some 150 nm west of Ireland. During the fishing process, a crew member went overboard at around 1730<sup>1</sup>. The crew member had previously climbed onto the observation deck with other employees in order to identify the next fishing gear marker buoy from there. The exact course of the accident was not observed. The casualty was only noticed when he was already in the water. Despite the immediate return to the scene of the accident, the casualty could only be rescued in an inanimate state. The crew's immediately initiated attempts at resuscitation were unsuccessful and the casualty was later pronounced dead. Following that, the PESORSA CUATRO returned to A Coruña. The BSU's investigation on board began after the vessel's arrival on 20 May 2016.

It was established during the investigation that the casualty had not been wearing an inflatable lifejacket<sup>2</sup>. It was also established that the guard rail surrounding the observation deck was not completely closed. The BSU believes this was the reason the fisherman fell overboard.

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<sup>1</sup> All times shown in this report are UTC (Central European Summer Time -2 hours). UTC equals board time.

<sup>2</sup> An inflatable lifejacket is part of the Personal Protective Equipment. This means in the report an automatically inflatable lifejacket when in contact with water. The inflated floating body shell assures that the head of an unconscious person is kept above the water. The lifejacket has a minimum buoyancy of 150 N and a CE marking.

## 2 FACTUAL INFORMATION

### 2.1 Photograph of the ship



Figure 1: Photograph of the PESORSA CUATRO

### 2.2 Ship particulars

Name of ship:	PESORSA CUATRO
Type of ship:	Fishing vessel
Nationality/Flag:	Germany
Port of registry:	Bremerhaven
IMO number:	5364932
Call sign:	DEOJ
Registration number:	BX-757
Owner:	Seamar GmbH
Year built:	1962
Shipyard/Yard number:	VEB Ernst-Thälmann-Werft, Brandenburg/131-12
Classification society:	DNV GL
Length overall:	30.87 m
Breadth overall:	6.68 m
Gross tonnage:	199
Displacement:	276 t
Deadweight:	52 t
Draught (max.):	3.3 m
Engine rating:	441 kW
Main engine:	Nydqvist & Holm AB, 1 x SF16RS-B
(Service) Speed:	12 kts
Hull material:	Steel
Minimum safe manning:	5

### 2.3 Voyage particulars

Port of departure:	Killybegs, Ireland
Port of call:	A Coruña, Spain
Type of voyage:	Merchant shipping, international
Cargo information:	Crab
Manning:	17
Pilot on board:	No
Number of passengers:	None

### 2.4 Marine casualty or incident information

Type of marine casualty:	Very serious marine casualty; fatal person-overboard accident involving a crew member
Date, time:	17 May 2016, 1730
Location:	Atlantic Ocean, 150 nm west of Ireland
Latitude/Longitude:	$\phi 52^{\circ} 32.7'N \lambda 014^{\circ} 34.5'W$
Ship operation and voyage segment:	High seas, fishing for marine animals
Place on board:	Deck
Consequences:	Loss of a crew member

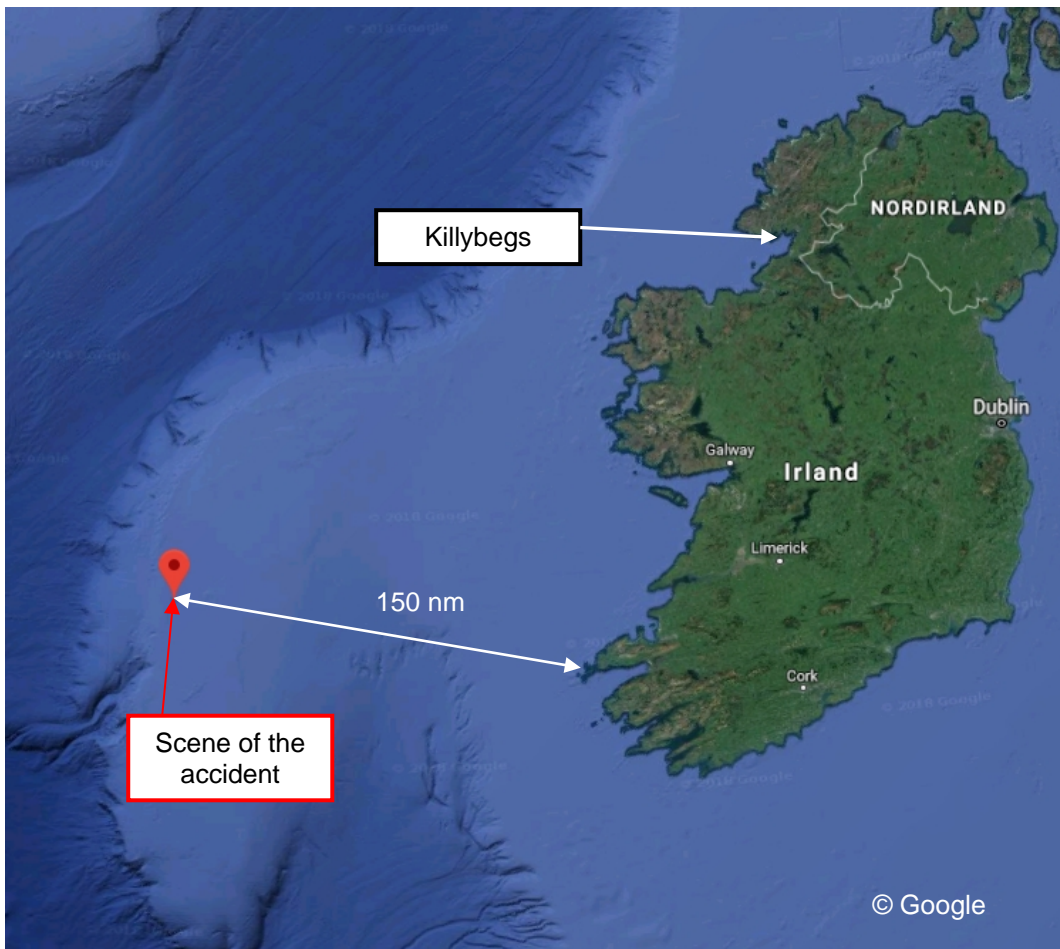


Figure 2: Scene of the accident and port of departure in Ireland

## 2.5 Shore authority involvement and emergency response

Agencies involved:	In Germany: Information given to the BSU and the Ship Safety Division of BG Verkehr <sup>3</sup> by the owner. In Spain: Dirección General de la Guardia Civil, Policia Judicial; Instituto Nacional de Toxicologia y Ciencias Forenses and La Comisión Permanente de Investigación de Accidentes e Incidentes Marítimos. In Portugal: Maritime Accident Investigation and Aeronautical Meteorology Authority Office
Actions taken:	Emergency response only by the crew of the vessel: Return manoeuvre of vessel; casualty taken on board; attempts at resuscitation. Vessel returned to A Coruña, the base port, after resuscitation attempts were discontinued. By the authorities: Investigations on board and autopsy of the deceased
Results achieved:	It was not possible to resuscitate the crew member

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<sup>3</sup> BG Verkehr - Berufsgenossenschaft Verkehrswirtschaft Post-Logistik und Telekommunikation; engl.: Employers Liability Insurance Association for Transport Industries, Postal Logistics and Telecommunication



### **3 COURSE OF THE ACCIDENT AND INVESTIGATION**

#### **3.1 Course of the accident**

The account of the course of the accident is based on the crew's representations to the BSU and statements to the Guardia Civil.

The German-flagged fishing vessel PESORSA CUATRO started the fishing trip at her base port, A Coruña, on 21 March 2016. She was located some 150 nm west of Ireland at the time of the accident on 17 May 2016. 17 crew members were working on board. The crew was occupied with the fishing process and had set up pots on a number of longlines for this purpose. At about 1730, the skipper headed for the position recorded on the navigational chart plotter to take in one such line of pots. A large buoy was used to mark the beginning and end of each longline. To visually identify the buoys, it was customary for a group of crew members currently working to climb onto the vessel's observation deck and keep a lookout from there.

The first line of pots had already been shot again when the accident happened. The skipper headed for the second line at 10 kts on a course of 210°. The deck crew on watch was called onto the observation deck to keep a lookout at a distance of about 1 nm from the position of the marker buoy plotted on the electronic chart display. Seven crew members went there in this particular case. An eighth remained on deck. With the exception of the subsequent casualty, every member of the deck crew was wearing an automatically inflatable lifejacket at the time. The subsequent casualty was the fourth or fifth person to climb up to the observation deck via a short ladder leading up from the port side of the superstructure. In all likelihood, the crew member then went straight to the starboard side, where he probably fell into the sea immediately afterwards. No other person noticed the fall. The crew members on the observation deck only became aware of the casualty when he was already in the water. The skipper, who was commanding the vessel alone from the bridge, was informed without undue delay and immediately began a starboard turning manoeuvre. Since no fishing gear was in the way, the vessel did not move any further than 300 m away from the casualty, who remained in sight at all times. By the time the PESORSA CUATRO was back at the scene of the accident the casualty was already drifting face down in the sea. A lifebuoy was cast but had no effect. The crew managed to pull the casualty close to the vessel using a small four-fluke drag anchor attached to a line. The drag anchor then slipped off and the casualty began to sink. They reached the casualty again with a second throw and brought him back to the vessel. After the rescue, the appropriately trained skipper immediately started attempts at resuscitation with the assistance of another crew member. Since no sign of life was visible after 15 minutes, the resuscitation attempt was discontinued.

The skipper then tried to notify Valentia Radio/Ireland of the accident. As this was not possible, the skipper made direct contact with the owner. The PESORSA DOS, which was operating nearby, then took charge of notifying Valentia Radio. Shortly after that, the crew of the PESORSA CUATRO started their journey home to Spain. The fishing gear was left behind.

The vessel reached the port of A Coruña at 1300 on 20 May 2016. The Guardia Civil's investigations on board began immediately after she made fast. After the enquiries of the Spanish authorities were completed, the body was taken off the vessel and transported to A Coruña's department of forensic medicine, where it was examined to determine the cause of death.

## **3.2 Investigation**

### **3.2.1 Start of the investigation**

The owner notified the BSU of the accident on 18 May 2016. A BSU investigator reached the port of A Coruña when the vessel was made fast on the afternoon of 20 May 2016. A representative of the Spanish marine accident<sup>4</sup> investigation authority assisted the investigator with his on-scene investigation. Since the deceased crew member was a Portuguese national, the Portuguese investigating authority<sup>5</sup> was also notified and subsequently informed of the status of the investigation.

The skipper and other crew members were questioned during the investigation on board. The vessel was then inspected in order to gain an understanding of the fishing process. This also involved a survey of the observation deck. A representative of the owner was helpful in all matters.

### **3.2.2 PESORSA CUATRO**

The PESORSA CUATRO was built in 1962 at the VEB Ernst-Thälmann-Werft shipyard in Brandenburg an der Havel. The vessel had been owned and converted by various companies prior to the accident. She came under the German flag in 1973 with the name URSEL when she was purchased from Sweden. At that time, the manning level was no more than six people. In 1979, the vessel received a new deckhouse. She was relocated to Vigo in Spain in 1988 after a sale, where she was converted for longline fishing in that same year, which included increasing the possible manning level to 16 people and the superstructure on the main deck. The vessel was converted once more in 1994. She received an additional structure, which is aft of and protrudes over the bridge.

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<sup>4</sup> La Comisión Permanente de Investigación de Accidentes e Incidentes Marítimos (CIAIM) – Standing Commission for Maritime Accident and Incident Investigations.

<sup>5</sup> Maritime Accident Investigation and Aeronautical Meteorology Authority Office.

In June 1997, the vessels owner decided to change the classification society, from Bureau Veritas to Germanischer Lloyd (GL). The GL had already known the vessel, since the classification society had previously carried out the surveys outside Germany on behalf of the German administration, the BG Verkehr, and provided technical assistance on documents to be submitted.

However, the drawings available at the DNV GL classification society do not accurately reflect the actual situation (Figure 8), as the existing guard rail is not shown there.

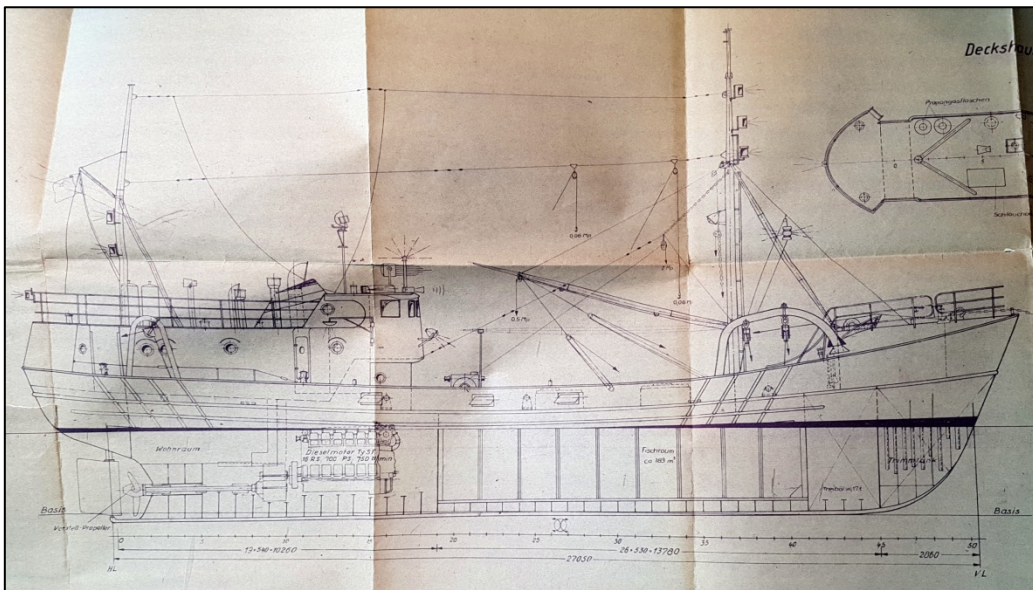


Figure 3: Vessel in her 1963 condition

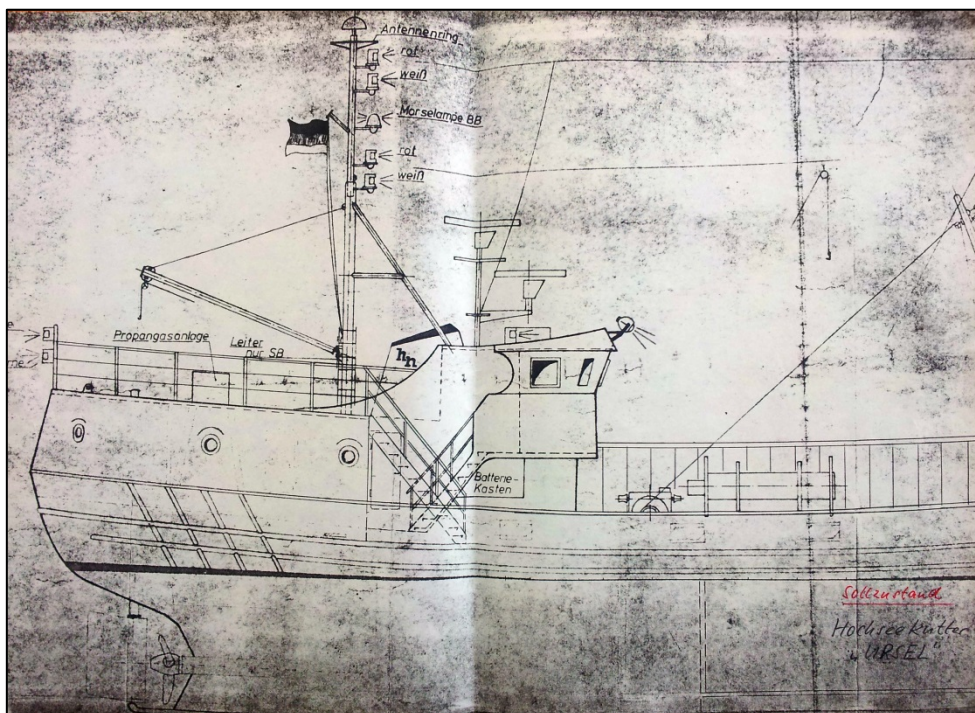


Figure 4: Vessel after the superstructure was renewed in 1979



Figure 5: View of the vessel in January 1987

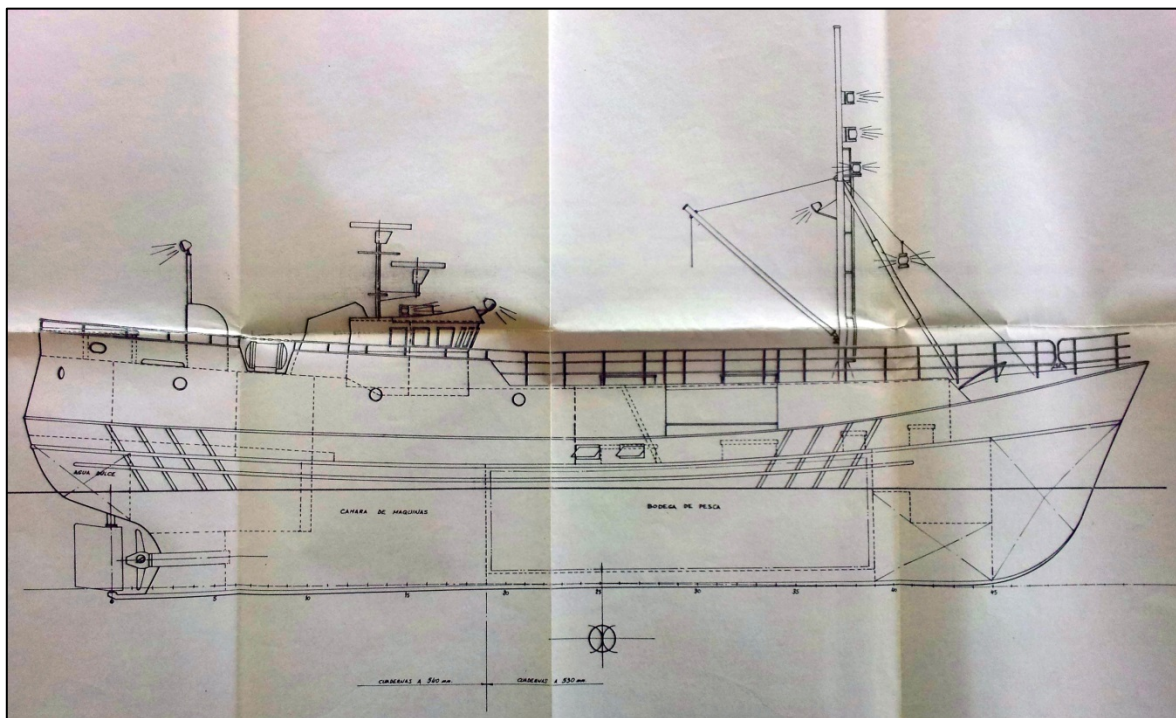


Figure 6: Vessel after conversion in 1988



Figure 7: Vessel after conversion in 1988<sup>6</sup>

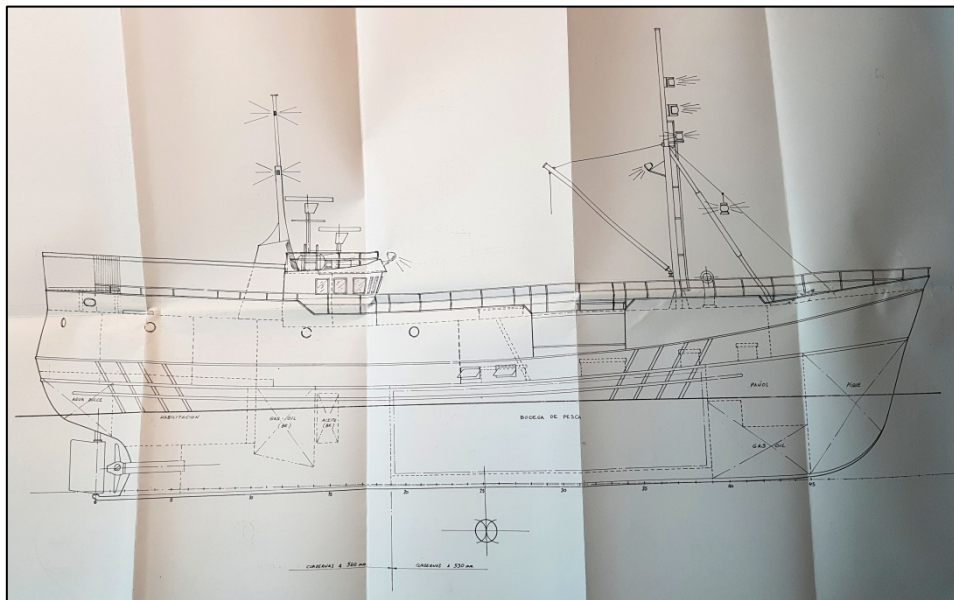


Figure 8: Vessel after the height of the aft superstructure was increased in 1994

The existing drawings did not show the shooting ramp on the port side of the superstructure (see Figure 9). This was used for shooting the pots. The Federal Office for Agriculture and Food (BLE) was asked for information in order to determine the period in which the shooting ramp was installed. The BLE provided an overview of the fishing gear used and fish species caught by the PESORSA CUATRO. This shows that she fished with pots, among other things, from 2002 onwards. She then fished only for deep-water crab with pots from 2006 onwards. It can be deduced from this that the vessel was retrofitted in 2006 at the latest and the shooting ramp was mounted on the port side in this context.

<sup>6</sup> The photograph was taken from the file at the Ship Safety Division of BG Verkehr.



Figure 9: The PESORSA CUATRO after conversion in 1994

The vessel in the port of A Coruña with pots and marker buoys stowed on deck.



Figure 10: The PESORSA CUATRO at the time of the BSU's survey

### 3.2.3 Surveys by the Ship Safety Division of BG Verkehr respective the classification society

The first survey by the Ship Safety Division of See-BG<sup>7</sup> took place as part of the change of flag on 2 March 1973.

<sup>7</sup> Marine Insurance and Safety Association; changed to the Ship Safety Division of BG Verkehr in 2010.

In the further course, the vessel was then surveyed on an ongoing basis, whereupon the classification society GL and later on DNV GL<sup>8</sup> carried out the surveys in Spain from 1997 onwards on its own account and already before as sovereign task on behalf of the Ship Safety Division of BG Verkehr by the local representative of the classification society.

The vessel was then surveyed on an ongoing basis, with the surveys in Spain generally being carried out on behalf of the Ship Safety Division of BG Verkehr by the DNV GL classification society's local representative.

The extension of the superstructure in 1994 resulted in the loss of booby hatch access to the upper deck. The survey report stated that this was replaced by an access hatch with cover. This means of accessing the observation deck was no longer provided during the BSU's survey. Only a larger closed hatch immediately behind the aft mast could be found. Given its size, this hatch was neither intended nor suitable for use as a means of usual access. The hatch was completely enclosed by a guard rail. The enclosed space above the hatch was used as a stowage area (see also Figures 19 and 20).

There were no findings or documents in the files of the Ship Safety Division of BG Verkehr or the classification society concerning subsequent conversions associated with changes in the target fish species or fishing gear used for this. The same applies to stability calculations. This could be especially relevant in cases where the fishing vessel is sailing to or from a fishing ground with all her pots on board.

The PESORSA CUATRO was issued various certificates based on the surveys carried out. At the time of the accident, she was in possession of the following certificates issued by the Ship Safety Division of BG Verkehr: International Fishing Vessel Safety Certificate for the A1+A2+A3 navigation area valid until 31 January 2017; Minimum Safe Manning Certificate also valid until the above date, which limited the navigation area to the west to a range of about 200 nm from Ireland and an additional 240 nm long box with 20° longitude as the western boundary (the scene of the accident was within a range of 200 nm from Ireland), and a Fishing Labour Certificate valid until 30 March 2019.

The Certificate of Class issued by the classification society was valid until 31 January 2017. Required annual surveys had been carried out prior to the accident.

### **3.2.4 Course of the voyage**

The PESORSA CUATRO started her fishing trip on 21 March 2016 in A Coruña, Spain. The voyage was interrupted only once prior to the accident for a brief call at the port of Killybegs in Ireland. They left this port on 9 May 2016.

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<sup>8</sup>DNV-GL – International classification society established by merging the classification societies Det Norske Veritas (Norway) and Germanischer Lloyd (Germany).

### **3.2.5 Manning**

The crew of the PESORSA CUATRO comprised 17 people on this trip. In addition to the skipper, the chief officer and the chief engineer officer, three other crew members were Spanish nationals. Nine crew members were Portuguese nationals. One Belarusian citizen and one Lithuanian citizen were also employed on the vessel.

The documents submitted by the skipper to support his qualifications were valid. The skipper has served in this capacity for a year and has worked for the owner for 20 years.

A certificate dated 16 January 2016 was presented for the casualty, who was 52 years at the time of the accident, which confirmed unrestricted fitness for service on board and that a visual aid was not required. He had been employed on board for eight years and had previously worked on other fishing vessels.

12 of the crew members worked on the fishing vessel's deck. They were divided into three groups, of which two worked on the deck at any given time. The working time of each group was 12 hours. The watch rotated every six hours on the bridge and at the engine.

The casualty and his group started their watch at 0800. The watch would have finished at 2000. Accordingly, the casualty had worked for 9.5 hours prior to the accident.

The casualty was not wearing an inflatable lifejacket at the time of the accident. According to information given by the skipper and other crew members, the casualty refused to wear one for reasons of comfort. The skipper also stated that he had previously urged this crew member to wear an inflatable lifejacket on several occasions.

Spain's Standing Commission for Maritime Accident and Incident Investigations requested the Guardia Civil records and the report on the autopsy of the casualty from the competent Spanish authorities and subsequently sent them to the BSU. The report concludes on the basis of the findings that the death of the casualty was caused by drowning. No substances of toxicological significance were identified.

### **3.2.6 Fishing process**

The part of the fishing process of relevance to the accident is described below. The PESORSA CUATRO fished for crab with pots (Figure 11). The pots were baited, tied to a line and then put into the sea. The length of one line was about 3 nm. 200 pots were attached to each line. The beginning and the end of each line were marked with a yellow buoy with a diameter of about 45 cm. A metal rod of about 4.30 m in length with a radar reflector attached to the top of it was in the middle of each buoy.



The lower end of this rod was weighted down so that the buoy floated in an upright position. Each buoy was numbered and labelled with the callsign and other markings (Figure 12).



Figure 11: Comparable pots used for crab fishing



Figure 12: Net marker buoys belonging to the PESORSA CUATRO

The crew fished with five pot lines in parallel. The pot line that had been out the longest was always taken in, emptied, baited and then shot again. The position of each pot line was marked in a special chart plotter used for fishing purposes. Nevertheless, visual identification of the buoy sailed for by a lookout on the observation deck was common practise. A group of crew members would usually go up to the observation deck for this purpose.

The PESORSA CUATRO had been converted for catching crabs. A shooting ramp used to transport pots into the water from the stern had been installed on the superstructure's port side. To ensure effective transportation of the pots via this trough-shaped shooting ramp, it was equipped with rollers on the sides. Cross members were attached to the underside of the shooting ramp at irregular intervals to stabilise the structure.

### 3.2.7 Access to the observation deck

The shooting ramp provided the only means of access to the observation deck at the time of the accident, as the hatch on the observation deck was difficult to open because of its size and was also stowed over. To reach the observation deck, at least the rear half of the slipway had to be walked on when climbing onto the shooting ramp at the leading edge of the superstructure. Since the rollers attached to the sides did not provide a safe footing when walked on, the cross members had to be used. The upper edge of the cross members was about 65 cm above the deck. The gap between cross members was irregular with the larger gaps being between 129 cm and 157 cm. Therefore, safe footing was not provided.



Figure 13: Shooting ramp for the pots



Figure 14: Shooting ramp, detailed view looking aft with rollers and cross members

To reach the observation deck it was necessary to climb on a small ladder with two rungs. Although the ladder originally reached down to the deck, it had been shortened for the shooting ramp and so as not to obstruct the pots as they moved past. The lowest rung was now more than 60 cm above the rollers and more than 40 cm above the upper edge of the shooting ramp's sides. Neither a standing area nor a member was installed below the ladder. Accordingly, to climb the ladder it was first necessary to stand on the rollers or on the edge of the shooting ramp's sides. This meant that safe entry was not provided and the descent was correspondingly unsafe, too.

Only remnants of the chain that was supposed to secure the 56 cm-wide opening in the guard rail were present at the top of the ladder's handrail. Accordingly, it was no longer possible to close the opening in the guard rail (Figure 16).



Figure 15: Short ladder between the observation deck and shooting ramp



Figure 16: Opening between ladder and observation deck without securing chain

### 3.2.8 Observation deck

The observation deck, i.e. the uppermost open deck, consists of two levels. The lower level is above the bridge. The inflatable dinghy, which is also used as a rescue boat, is stored there. Three containers used for stowing the backup batteries, for example, were also there. The port liferaft's stowage rack was also installed on this level. On the other hand, the starboard liferaft's stowage rack was fixed to the roof of the companionway to the bridge, meaning visually it belonged to the upper level (Figure 17). The investigators believe the lower level was not used for lookout purposes because it was so narrow.



Figure 17: View of the lower level of the observation deck

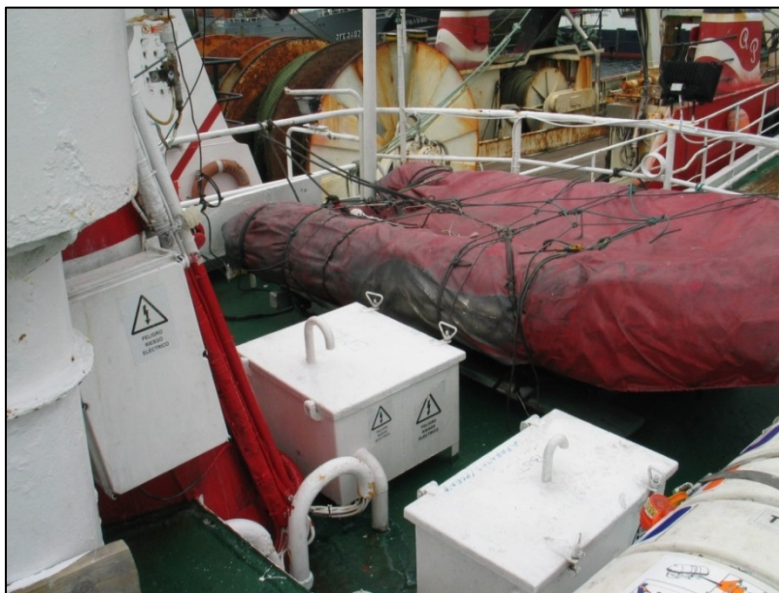


Figure 18: View of the lower level of the observation deck

View from starboard to port. The starboard liferaft is in the foreground and at the leading edge of the observation deck the rescue boat

The upper level was largely free at the time of the survey. Only one storage space was located there directly behind the mast. It had been constructed with a guard rail and was used for stowing fenders and other bulky objects. However, photographs available on the Internet also show that the entire area of the aft observation deck is used for stowing net buoys and others (see also section 3.2.3).

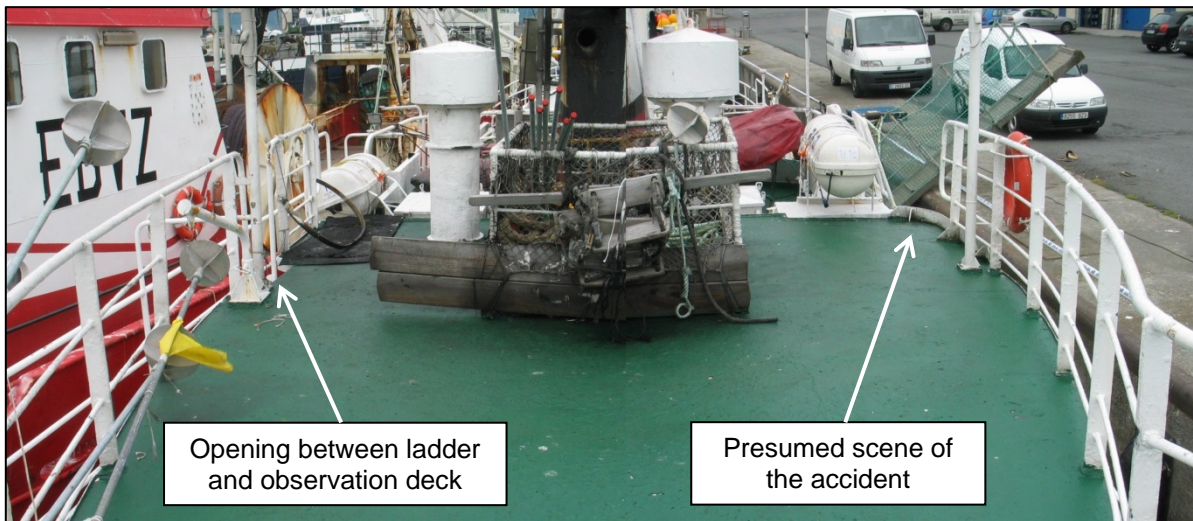


Figure 19: View forward over the aft observation deck  
 The stowage space is located in the middle.



Figure 20: View to the upper level of the observation deck from starboard

The observation deck was almost completely enclosed by a guard rail of 96.5 cm in height. For the most part, the guard rail consisted of four cross members. Apart from the ladder on port side, the only opening was on the starboard side in the immediate vicinity of the liferaft stowed there (Figures 20 and 21). This involved a gap of 50 cm, which could not be closed by a movable barrier. The investigators believe the casualty went overboard at this point.



Figure 21: Unsecured area next to the liferaft

### 3.2.9 Weather

Weather information was taken from the vessel's deck logbook. A 5 Bft westerly (300°) wind prevailed at the time of the accident. The height of the swell was 4 m. Visibility stood at about 4,000 m and there was light rain. Air pressure stood at 999 mbar.

## 4 ANALYSIS

### 4.1 Course of the accident

The accident occurred during the fishing process. The subsequent casualty climbed onto the observation deck with a group of crew members to look for the next marker buoy from there. The BSU investigators assume that it was difficult to identify the marker buoy with radar alone because of the size of the radar reflector, its relatively low height above the water surface and the prevailing swell. As there was no other means of accessing the observation deck, the pot shooting ramp on the port side of the superstructure was used to climb up to it. The investigators believe that the casualty intended to adopt a lookout position on the starboard side. While moving to the starboard side, the subsequent casualty had to pass the stowage container in the middle of the deck, which was enclosed by a guard rail and offered a limited opportunity to hold on. Another guard rail then followed on the starboard side, providing a handhold. However, there was a gap of 50 cm in this guard rail near the starboard liferaft.

None of the other crew members on the observation deck saw the actual course of the accident. However, the investigators believe that the accident was caused by the opening in the guard rail.

The movements of the fishing vessel in the swell, which were exacerbated by the starboard beam sea and caused the vessel to roll, may have contributed to the person falling overboard.

The guard rail's height was 96.5 cm, meaning it did not conform to the required height of 1 m. The investigators assume that this did not influence the course of the accident.

### 4.2 Obligations of the company

Under the terms of the Seearbeitsgesetz<sup>9 10</sup>, the vessels owner is obliged to protect the crewmembers against work-related health risks. The obligation for a safe operation of the vessel and the work areas includes the master as the person responsible for this. The vessels owner should have cared for the appointment of a safety officer and a ship safety committee, since the crew comprised more than 5 crewmembers<sup>11</sup>. These could have assisted the vessels owner in matters of health and occupational safety.

Moreover, the Accident Prevention Regulations for Shipping Enterprises (UVV See)<sup>12</sup> in force at the time of the accident stated that the owner of the vessel was obliged to ensure that the prescribed items of equipment must be of a type that guaranteed safe working procedures.<sup>13</sup>

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<sup>9</sup> Maritime Labor Act.

<sup>10</sup> § 114 (1) SeeArbG – General protection against operational risks.

<sup>11</sup> §§ 115, 116 SeeArbG.

<sup>12</sup> UVV See of 1 January 1981, as amended on 1 January 2011.

<sup>13</sup> § 3 (2) UVV See.



In addition, the conduct of the insured parties had to be monitored with regard to compliance with the regulations.<sup>14</sup> This also included wearing personal protective equipment. Following on from the above, the company, i.e. the owner or an authorised person familiar with the conditions and operating processes on board, should have carried out a risk analysis regularly. This evidently did not happen, as there were no changes made to identifiable weak points.

#### **4.3 Obligations of the employee**

According to the Maritime Labour Act there is a fundamental obligation for each crew member to follow the workplace health and safety measures.<sup>15</sup>

The UVV See, as amended on 1 January 2011, applied at the time of the accident. It had been comprehensively revised and shortened as compared to the previous version, reducing the obligations of insured parties to only a few points. The UVV See valid at the time of the accident did not oblige insured parties to wear an inflatable lifejacket. Under certain circumstances, the company was obliged to urge insured parties to wear an inflatable lifejacket, however. This obligation arises from section 262(7) UVV See on fishing vessels<sup>16</sup> flying the flag of Germany: "If, during work on deck, there is a danger of falling into the water, the ship's officer appointed for this matter shall ensure that approved inflatable lifejackets are worn. [...]" Since the guard rail on the observation deck had gaps in it, there was a danger of falling into the water.

According to the skipper, the subsequent casualty had been requested to wear a lifejacket on several occasions in the past but had reportedly failed to comply with these requests.

#### **4.4 Surveys by the BG Verkehr and classification society**

Representatives of the classification society and the Ship Safety Division of BG Verkehr had surveyed the PESORSA CUATRO regularly prior to the day of the accident. In doing so, the ship was surveyed by the classification society on behalf of the Ship Safety Division of BG Verkehr with regard to the "Accident Prevention and Ship Safety Facilities and Equipment" in the engine and with respect to the fishing operations as well. According to the information supplied by the classification society, their surveys solely referred to the ship's hull and the engines including the associated systems. Operational processes are not part of the classification regulations and the sovereign tasks transferred to the classification societies, and were therefore not inspected.

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<sup>14</sup> § 3 (4) UVV See.

<sup>15</sup> § 114 (29) SeeArbG.

<sup>16</sup> Fishing vessel: a vessel used in the commercial catching of fish and other creatures found in the sea or in rivers. § 41 (4) UVV See.

The BSU believes that even without taking into account the operating procedures, the incomplete enclosure of the upper deck should have been identified during the surveys. It is true that the current condition of the vessel with a guard rail surrounding the whole of the upper deck/observation deck was not documented in the ship's file at the classification society. However, the contradiction between planning and reality should have been noticeable during a comprehensive inspection, as the upper deck was also used as a stowage area and therefore it was reasonable to assume this deck would be entered.

With the entry into force of the Seearbeitsgesetz in August 2013, the regulatory supervision in the area of the occupational safety on merchant ships was transferred from the authorities for occupational safety of the Federal States to the Ship Safety Division. The survey thereby refers to the safety and occupational safety during the work. The first survey of the PERSORSA QUATRO in this connection was conducted in December 2014. In March 2015, a follow-up survey was carried out due to the large number of deficiencies detected. During both survey appointments, the surveyors inspected the ship with regard to the condition of the living spaces and the ships hospital as well. At the time of the follow-up survey, all deficiencies were remedied according to the minutes taken.

The BSU assumes that the deficiencies at the complete access to the compass bridge and at the complete railing on the compass bridge detected during the accident investigation on board had already existed at the time of the surveys carried out in 2014 and 2015. In the opinion of the BSU, the fishing process and the operating processes during the fishing process were not given sufficient consideration during the survey of the Ship Safety Division of BG Verkehr. Otherwise, the unsecure access to the compass bridge via the drain channel and the incomplete boundary of the compass bridge could have been detected.

The Ship Safety Division of BG Verkehr believes that assessing the working processes in the fishing process is difficult, since the surveys are usually carried out during the stay in port. In that respect it believes that the vessels owner has a special responsibility.

## **5 CONCLUSIONS**

### **5.1 Obligations of the company**

The investigators believe that the PESORSA CUATRO's owner did not satisfy its obligation to ensure safe ship operation to a sufficient extent. For example, the only partial protection afforded by the guard rail on the observation deck and unsafe access to the observation deck went unidentified or their potential dangers were rated as negligible.

### **5.2 Inflatable lifejacket**

The ship's command respectively the owner did not fulfil its responsibility to monitor compliance with and enforce the UVV See, in this case with regard to wearing an inflatable lifejacket, to a sufficient extent. It was apparently assumed that there was a risk of falling overboard, hence the instruction to wear inflatable lifejackets was given. If the subsequent casualty had persistently refused, then the company may have had to prohibit working on deck.

The casualty failed to fulfil his own responsibility for wearing personal protective equipment to a sufficient extent. He refrained from wearing an inflatable lifejacket despite the issue being raised on a number of occasions. This reduced his chances of survival after falling into the water.

### **5.3 Surveys by the Ship Safety Division of BG Verkehr**

The BSU is of the opinion that the Ship Safety Division paid too little attention to the operating processes within the fishing process but also to the normal operation. As a consequence of this, safety deficits on the observation deck and in the area of the shooting ramp used to access the observation deck were not identified.

## 6 Actions taken

The crew or the owner dealt with the issues found by the BSU in the course of its survey of the PESORSA CUATRO during the days that followed. For example, an additional guard rail was installed in the area of the starboard liferaft. Moreover, a means of access to the observation deck from the superstructure was established via the existing hatch cover. In addition, two chains were attached to the opening between ladder and observation deck on the port side to secure the opening.



Figure 22: Additional guard rail next to the liferaft



Figure 23: New means of accessing the observation deck



Figure 24: New means of accessing the observation deck seen from below



Figure 25: Ladder to observation deck with safety chains

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## **7 SAFETY RECOMMENDATIONS**

The following safety recommendations do not constitute a presumption of blame or liability in respect of type, number or sequence.

### **7.1 Owner: Seamar GmbH**

The Federal Bureau of Maritime Casualty Investigation recommends that the owner ensure that the obligation to wear automatically inflatable lifejackets be enforced on board its fishing vessels if there is a risk of falling into the water while working on the deck.

### **7.2 Owner: Seamar GmbH**

The Federal Bureau of Maritime Casualty Investigation recommends the owner to take into active consideration the typical work processes during catch and processing while carrying out the necessary regular risk analyses on board in the future in order to identify and eliminate potential hazards in the work process.

### **7.3 Ship Safety Division of BG Verkehr**

The Federal Bureau of Maritime Casualty Investigation recommends that the Ship Safety Division of BG Verkehr urges their surveyors to include operating procedures during the fishing process more extensively in the scope of the surveys carried out with respect to labour legislation.

## **8 SOURCES**

- Statements of the ship's command
- Witness testimony
- Findings of the investigation of the Guardia Civil's competent department
- Navigational charts and ship particulars, BSH
- Ship's file at the Ship Safety Division (BG Verkehr)
- Documentation of the DNV GL classification society
- Documentation of the BLE
- Figures 1 and 10 to 21, BSU; Figures 22 to 25, Seamar GmbH; see copyright notice in the image for all others.