



**SMAIC**  
STATE MARINE ACCIDENT  
INVESTIGATION COMMISSION

# FINAL REPORT

# 072/20

**Very serious marine casualty**

## **S/Y Gmina Police Sharki**

**The collision of the yacht with a buoy at the Wadden  
Sea on the day of 11 August 2020**

**June 2021**



The examination of a very serious marine casualty of the yacht, **Gmina Police Sharki**, was conducted under the State Marine Accident Investigation Commission Act of 31 August 2012 (The Journal of Laws of 2019, item 1374) as well as norms, standards and recommended procedures agreed within the International Maritime Organisation (IMO) and binding the Republic of Poland.

The objective of the investigation of a marine casualty or incident under the above-mentioned Act is to ascertain its causes and circumstances to prevent future casualties and incidents and improve the state of marine safety.

The State Marine Accident Investigation Commission does not determine liability nor apportion blame to persons involved in the marine casualty or incident.

This report shall be inadmissible in any judicial or other proceedings whose purpose is to attribute blame or liability for the accident referred to in the report (Art. 40.2 of the State Marine Accident Investigation Commission Act).

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## 1. Facts

On 11 August 2020, the yacht, **Gmina Police Sharki** with a crew of seven on board before 20:00<sup>1</sup> left the Brunsbüttel lock and, after setting the sails and turning off the engine, began sailing on the Elbe towards the port of Helgoland. Favorable eastern wind of ca. 4<sup>o</sup>B and the tidal current allowed the yacht, sailing on the right-hand side, to reach the speed of 10 to 12 k. The sailing was carried out beyond the buoy line of the fairway on the eastern side until she passed the buoy No. 32, when the yacht-master at 22:32 ordered the change of course for the intersection of the fairway and the continuation of navigation beyond the buoy line of the fairway on the west side. The course was set on the autopilot in such a way as to pass over buoy No. 27 starboard. At a distance of ca. 500 m from the buoy No. 27, the yacht-master went down to the galley for a moment, leaving a two-persons watch in the cockpit. After returning to the cockpit, the yacht-master noticed that the bow of the yacht was pointing directly at a nearby buoy. After disengaging the autopilot, he put the rudder to port but, since the distance to the obstacle was very small, the yacht at 22:45 hit the buoy No. 27 with the starboard hull. Visual inspection of the starboard showed extensive unsealing of the hull above and below the waterline. The yacht-master ordered to lower the sails and start the engine, and together with the crew made an attempt to limit the inflow of water inside the yacht and to remove it. In the vicinity of the buoy No. 25, the yacht-master decided to change the course to return to Cuxhaven, and when he deemed it unfeasible, to strand the yacht in the nearby shallows of the Wadden Sea. At 22:56 the yacht-master decided to call for help and abandon yacht. MRCC Bremen acknowledged receipt of the distress call and launched a rescue operation. The crew left the yacht and went to the launched raft at ca. 23:10. A moment later the yacht sank. The last signal from the AIS transmitter was sent at 23:12. The crew was collected by the SAR vessel, **Mathias** at 23:28 and transported safely ashore. The yacht was lifted from the bottom of the fairway on 13 August 2020 in the evening and on the following day, in the morning, it was raised from water to land.

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<sup>1</sup> Time given in the report, if not specified otherwise, is a local time (CEST)(CEST= UTC + 2h)



## 2. General Information

### 2.1. Yacht Particulars

Yacht's name:	<b>Gmina Police Sharki<sup>2</sup></b>
Flag:	Poland
Owner:	private person
Operator:	private person
Yacht type:	sloop
Call sign:	SPS2608
ID number:	POL3911
MMSI:	261011690
Gross tonnage (GT):	24.21
Year of built:	1972
Sail area:	78 m <sup>2</sup>
Power:	55 kW
Engine:	Yanmar (in-built)
Width:	4.1 m
Length overall:	15.0 m
Draught:	2.4 m
Hull material:	wood
Minimum crew:	not defined

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<sup>2</sup> The official name of the yacht included in the Yacht Certificate No. 022116 issued by PZŻ on 19.06.2017. Further in the report her name was abbreviated to commonly used the name **Sharki**.



*Photograph 1: The yacht, Sharki*

## 2.2. Voyage Particulars:

Ports en route:	Laboe (DE)
Port of destination:	Helgoland (DE)
Type of navigation:	recreational
Information about the crew (number, nationality):	7 Poles
Information about the passengers (number, nationality):	none

## 2.3. Accident Information

Kind:	very serious marine accident
Date and time of event:	11 August 2020, at 22:45
Geographical position of the event:	$\varphi=53^{\circ} 55.9' N, \lambda=008^{\circ} 39.3' E$
Geographical area of the event:	estuary of the Elbe at the Wadden Sea
Nature of the water region:	internal waters
Weather during the event:	wind E 4-5 <sup>o</sup> B, sea state 2, good visibility



Operational status of the vessel during  
the accident:

sailing under sails

Place of the accident on the yacht:

yacht's hull at starboard bow above and  
below the waterline

Effects of the accident:

- to the yacht:

sinking

- to the crew:

minor injuries of the two crew members



*Figure 1: The route of the yacht, Sharki*

## 2.4. Shore Services and Rescue Action Information

Parties involved:

SAR, VTS, police, a vessel in the vicinity  
of the site of the accident

Applied means:

SAR vessel **Annelise Kramer** with FRB  
**Mathias** on board, water police unit  
**Bürgermeister Brauer**, Belgian general  
cargo vessel, **Fast Sam**

Reaction time, actions of the rescue team:

distress signal at 22:56; the assistance of  
Fast Sam at 22:58; the assistance of the  
police unit at 23:12; arrival of the SAR  
unit at 23:21.



The actions:

taking the shipwrecked crew from the raft to FRB Mathias at 23:28

The results:

the crew of the yacht rescued and safely transported to the shore, the yacht sank.



*Photograph 2: Vessels participating in the rescue operation*

### 3. Circumstances of the Accident

The **Sharki** sailing yacht, manned by a crew of seven, who had known one another from previous common voyages, set out to sea from the marina in Świnoujście on Sunday, 9 August



2020 at ca. 18:00. Amsterdam had been the initial destination but due to forecasted favorable weather conditions later it was changed to London and Amsterdam. The planned route led through the Kiel Canal and Heligoland. It was planned to take the journey home to Szczecin from Amsterdam.

Favorable weather and the eastern wind of 3-4<sup>0</sup>B made the voyage a very pleasant one. The crew members, who knew the yacht and the yacht-master very well, were divided into three two-persons watches. The watches were taken every four hours and the watch-keeping schedule included two two-hours 'broken' watches between 12:00 and 16:00.

After a day of sailing, on Tuesday, 11 August at ca. 02:00, the yacht moored in the Laboe marina, near the entrance to the Kiel Canal, where the crew spent the rest of the night.

On Tuesday, 11 August at ca. 08:00, the yacht passed the Holtenau lock. Sailing in the Kiel Canal proceeded without any obstacles. Before leaving the canal, the yacht stopped in front of the Brunsbüttel lock, waiting for the ebb tide at the Elbe estuary, to continue the voyage with the ebb stream. The high water in Cuxhaven was at 18:45<sup>3</sup> and shortly thereafter, at ca. 19:30<sup>4</sup> (2h after high water in Heligoland), the ebb tide began at the Elbe estuary. Before 20:00 the yacht passed the Brunsbüttel lock. The next planned port was to be the marina on the island of Heligoland. After leaving the lock, the mainsail and the genoa sails were set, and the engine was switched off. At 20:00 the watch was taken over by the third officer with his watchman. The yacht was following a pilot course at starboard tack. The yacht-master carried out the surveillance using the electronic map, the watch officer stood at the steering wheel, but the steering was carried out using the autopilot by keeping the set compass course. A female crew member was sitting beside the officer on the windward starboard. The observation was carried out by the yacht-master and the watch officer.

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<sup>3</sup> Following the date in Tide Tables 2020 The Cruising Almanac – Imray.

<sup>4</sup> The chart of direction and speed of the tide on the BA 3619 map.



*Photograph 3: View from the window of the fairing*

The yacht-master was assisting the third officer in the observation, from time to time he descended below the deck to the plotter screen where the navigation map and information about the movement of ships from the AIS receiver were displayed. At that time it was already dark. Favorable eastern wind, blowing with the force of 4-5<sup>0</sup>B and a current with the speed of 2-4 knots, ensured at times sailing at a speed over ground (SOG) up to 12 knots.

For the first hour after leaving the lock, almost the entire crew was in the cockpit. After sunset, the crew retired. The third watch, the yacht-master and the first officer remained on duty. The yacht was following the pilot courses, except for the (red) buoys delimiting the left<sup>5</sup> side of the fairway.

The apparent wind changed to more northerly and the yacht was approaching the point where the fairway was forking to the west. At 22:32, when the yacht was passing the red buoy No. 32<sup>6</sup>, the yacht-master, wishing to avoid an excessively steep course and seeing on the plotter

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<sup>5</sup> Left side of the fairway is a port side of a vessel entering the fairway from the sea.

<sup>6</sup> A number following the word „Buoy” means its official number.

equipped with AIS that the nearest vessel was more than 4 NM away, he ordered the third officer to direct the yacht towards the buoy No. 27 glowing with a green light and visible on the other side of the fairway. The third officer, using the buttons on the autopilot panel changed the course by about  $20^{\circ}$  to port, keeping the indicated buoy a dozen or so degrees from starboard.

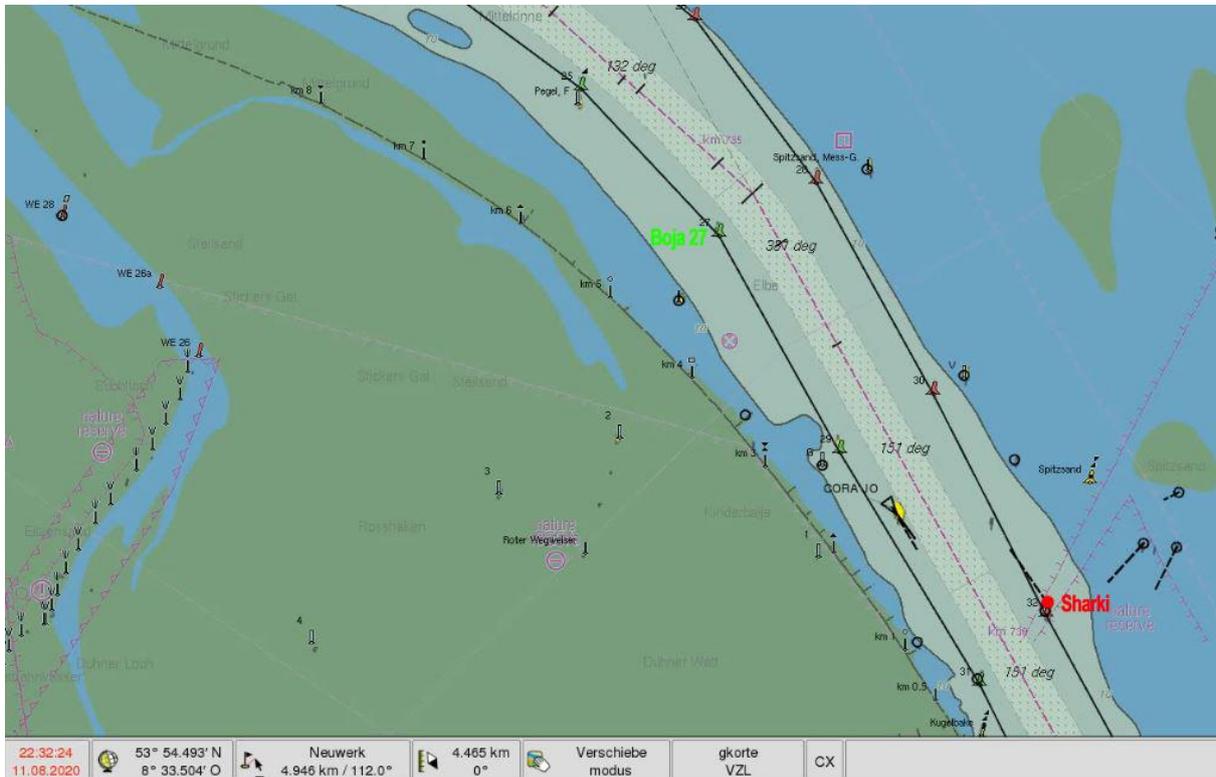


Figure 2: The beginning of the fairway crossing manoeuvre at 22:32

When the yacht was ca. 3 cable-lengths from the buoy No. 27, at ca. 22:43 the yacht-master went to the galley to pick a sandwich. Moments earlier, the first officer had left the cockpit, going down to the navigational room to take a photo of the yacht's speed - 12 k displayed on the plotter.

The yacht-master returned to the cockpit about a minute after and noticed that the watchman was not looking out and that the yacht was heading straight to the green buoy situated at a short distance from the bow. The yacht-master turned off the autopilot and put the rudder hard to port. The circulation started but it was not possible to avoid the contact with the buoy. At 22:45 the yacht hit starboard the buoy No. 27.

The yacht-master, while examining the potential damage, noticed an extensive unsealing of the starboard plating at a distance of ca. 2 m from the bow. He immediately went below the deck to the bow, where he noticed a large inflow of water. He returned to the cockpit. The engine



and the bilge pumps were started and the sails were cleared. At that time, three members of the crew were trying to stop the flow of water into the yacht. Due to the lack of direct access to the damage site, the bunk and the shelf in the place of damage were torn out, but due to a very large size of the damage and the jagged edges of the opening through which water was flowing in, the attempts to stop the leakage were unsuccessful. During that time, the yacht passed another green buoy No. 25, maintaining her controllability. The yacht-master ordered to turn back to Cuxhaven, but seeing little chance of sailing against the tide, he tried to steer the yacht into a nearby shallow. Strongly trimmed to the bow, the yacht responded poorly to the rudder and the stranding attempt was unsuccessful.

As it was impossible to stop the water flowing into the interior of the yacht and remove it with the use of pumps, the yacht-master decided to call for help and move the crew onto a life raft. The yacht-master and the second officer launched the raft, whilst the first officer at 22:56 broadcasted a distress call message using a VHF radio.

The distress call from **Sharki** was received and confirmed by MRCC Bremen.

A police patrol boat **Bürgermeister Brauer** and a general cargo vessel **Fast Sam** flying the flag of Belgium were located near the scene of the incident. The above-mentioned vessels were sent to a rescue operation.

**Fast Sam** came first to the scene at 22:58. The vessel stopped near the yacht in assistance. At ca. 23:05 the yacht-master instructed the crew to move to the life raft. At ca. 23:10 the entire crew moved to the raft. A while after the yacht-master as the last member of the crew left the yacht, she went to the bottom, bow down, and fell over to starboard.

**Fast Sam**, which communicated directly with the shipwrecked persons, at 23:10 informed MRCC that **Sharki** sank near the buoy No. 23 and that all crew members were on the raft. At 23:12 **Bürgermeister Brauer** arrived at the scene while **FRB Mathias** arrived at 23:21 and within next 7 minutes it picked up the survivors from the raft, and then it was picked up by the SAR mother ship, **Annelise Kramer**. The shipwrecked persons were transported aboard **Annelise Kramer**, cared for and transported ashore.

The life raft was towed by **Bürgermeister Brauer** to the Alter Fischereihafen port in Cuxhaven.

The rescue operation was completed on 12 August 2020 at 01:26.

Under the influence of variable currents acting on the yacht lying on the seabed, she drifted onto the fairway and became a navigational obstacle. On the next day, i.e. 13 August 2020

before 18:00 the yacht was lifted from the bottom to the water-level by Otto Wulf, a diving and excavating company and towed to the Otto Wulf's site in Cuxhaven. The yacht was pulled out ashore in the morning of 14 August 2020.



*Photograph 4: Lifting the yacht from the bottom*



*Photograph 5: Pulling out the yacht ashore*



*Photograph 6: Damage of the yacht's starboard 1.15m x 18m in size*

#### **4. Analysis and Comments about Factors Causing the Accident with Regard to Examination Results and Expert Opinions**

##### **4.1. Mechanical Factors:**

##### **4.1.1. Construction of the Yacht**

Designed by the American design studio Sparkman & Stephens, the yacht, **Sharki** was built in the German shipyard Burmester in 1972 for the German racing team. The yacht, named Rubin won the Admiral's Cup Regatta in 1973.

The hull with a diagonal plating, made of mahogany wood glued with epoxy resin, was in a very good condition. There were no damages, cracks or leaks in the plating.

##### **4.1.2. Navigation and Radio Equipment**

There were two GPS receivers on the yacht, a plotter with a complete set of electronic maps



covering the navigation area, AIS class B transceiver as well as wind direction and speed indicators and depth indicators by B&G company. Moreover there were paper nautical charts, which, like the electronics ones, had not been updated, and the Reed's Almanach 2020.

The radio equipment consisted of two communication transmitters, a stationary IC type transmitter M 601 with DSC with power of 25 W and one portable transmitter, also by Icom Inc. Japan, with power of 5 W. The devices were operational and used for communication in distress. The yacht was also equipped with an emergency EPIRB radio beacon Mc Murdo E5, without a valid annual inspection since 2018, which was not used in emergency but it was operational, which was confirmed by its accidental use on 14 August 14 2020.

Radio license No. MA/1257/P/07 issued by the President of UKE expired on 15 May 2017. The radio beacon was not registered with the Civil Aviation Office<sup>7</sup>. The above formal deficiencies did not affect the occurrence of the accident of the yacht on 11 August 2020.

#### 4.1.3. Rescue and Signalling Equipment

The yacht was equipped with proper lights and it was confirmed during the investigation that the required navigation lights were on in the evening.

The applicable regulations<sup>8</sup> do not require recreational yachts up to 15 m in length to undergo obligatory technical surveys or inspections by an authorized inspection body. Nevertheless, it is the yacht-master's responsibility<sup>9</sup> to check the technical condition of the yacht and her equipment, including rescue and emergency call measures.

The yacht had complete lifejackets for all crew members and they were put on by the crew on order of the yacht-master before going down to the raft.

The yacht was also equipped with an RFD-12 pneumatic life raft, the last service inspection of which had been carried out by a recognized service station on 26 June 2017. The next annual inspections required by the SOLAS '74 regulations<sup>10</sup> were not carried out. The validity of the H-20 hydrostatic release expired in July 2019. The fact that the inspection was carried out in

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<sup>7</sup> The collection of requirements in that regard is available at UKE and MI sites.

<sup>8</sup> Regulation of the Minister of Transport, Construction and Maritime Economy of 28 February 2012 on safe navigation (Journal of Laws: Dz. U 2016 item 1557) hereinafter called the Regulation on safe navigation (see the Enclosure p. 15.3).

<sup>9</sup> §6 p. 2 of the Regulation on safe navigation.

<sup>10</sup> Regulation III/20.8.1.1 of the (SOLAS 1974 Convention on the Safety at Sea).



2017 could not give rise to the assumption that the validity of the raft equipment would not expire after 3 years from the date of the inspection. And so, in March 2020, the first aid kit and torches expired, and in May 2020, smoke buoys. While investigating this accident, the Commission concluded that there appeared a rather common error in assessing the due date for rafts' surveys. While the rafts manufactured pursuant to the provisions of the SOLAS '74 Convention and the LSA Code are subject to mandatory service inspections every year, the so-called yachts' rafts that meet the requirements of ISO 9650 are certified every 3 years, on average.<sup>11</sup> In the latter case, the raft's equipment during inspection is subject to replacement, provided that the validity period expires within the period to 3.5 years from the date of the inspection.

In the investigated case the raft was operational and allowed the crew to be saved.

There were pyrotechnic means on the yacht, while only some of them were still valid; the oldest torch expired in 2014. The Commission considered it necessary to draw attention to a serious risk to the crew related to the storage and use of out-of-date pyrotechnic means on the yacht.

## 4.2. Human Factors

### 4.2.1. Crew Qualifications

The crew was composed of people who had been sailing together aboard **Sharki** for many years. All crew members had maritime sailing experience.

The yacht-master holds a Yacht-Master's license issued by the PZŻ in 2005. He has been a sailing instructor since 1988. He is also the owner of **Sharki**. He has renovated it himself and has been sailing on it for 20 years in European waters.

The first officer holds a Marine Yacht's Helmsman license issued by the PZŻ in 2010. Predominantly she has been sailing on **Sharki**.

The second officer holds a Marine Yacht's Helmsman license issued by the PZŻ (a yacht helmsman) issued by the PZŻ in 1986. She has gone on several voyages on **Sharki**.

The third officer declared that he had a Yachtman's license since 1970s, but he did not present the Commission with any document confirming that he had obtained the above license. He

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<sup>11</sup> Unless the producer defines a different frequency of the inspection.



participated in many cruises and regattas on **Sharki**.

One of the crew had a license of a sea helmsman (yacht helmsman) since 1992. She was a participant in many regattas and several cruises on the **Sharki** yacht (since 2014).

Another crew member declared to have a yacht sailor's license, but did not document the above. He has participated in cruises to **Sharki** since 2012.

One of the crew members had no qualifications. She made three cruises on **Sharki**.

In addition, the yacht-master had a VHF Radiotelephone Operator's certificate since 2003, and the first officer - a Short-Range Communications Operator's (SRC) certificate since 2008. It should be assessed that as a whole, the crew had high qualifications, but the third watch consisted of persons of whom none could document having a sailing license.

#### **4.2.2. Functional Limitations**

The crew had been sailing for 3 days working in the watch system and in good hydro-meteorological conditions allowing the crew to rest. Passing through the Kiel Canal in good weather gathered the entire crew in the cockpit almost until sunset, but this did not have any significant impact on the level of fatigue, which could have been one of the causes of the accident.

When analyzing the observation method used by the crew in the period just before the accident, the Commission was informed by the watch officer about a significant reduction in the ability to see in one eye. However, no documents confirming this restriction were presented, and at the same time the officer confirmed the possession of a valid driving license. The yacht-master stated that upon returning to the cockpit, shortly before the accident, he saw the watch officer facing the other member of the watch.

### **4.3. Influence of External Factors on the Accident, including those related to the Marine Environment**

#### **4.3.1. Weather Conditions<sup>12</sup>**

At the time of the accident there prevailed very favorable hydro-meteorological conditions.

Wind: E 4-5<sup>0</sup> B

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<sup>12</sup> The description of weather conditions was prepared on the basis of analyses and satellite images by German meteorological service in Offenbach.

Swell: 0.5 m

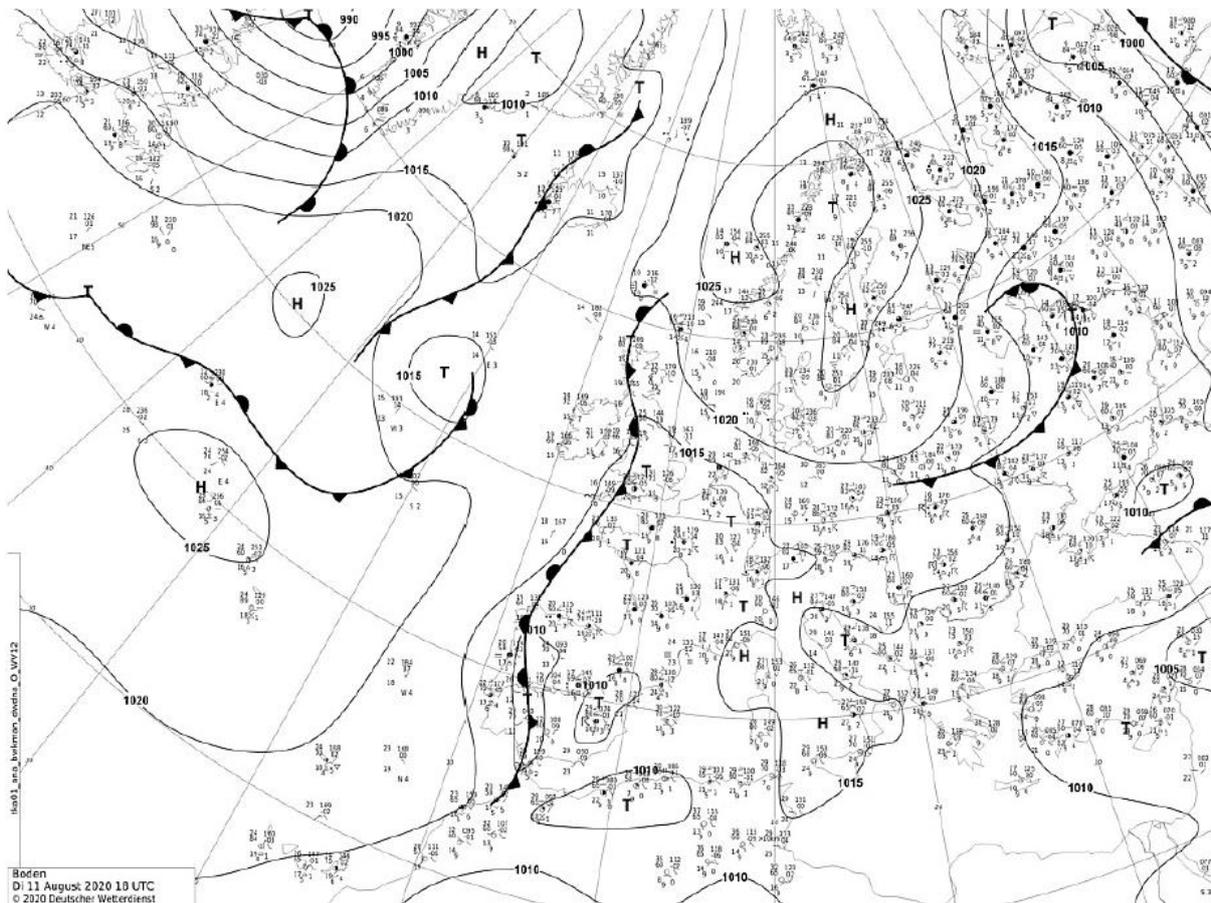
Visibility: good

Cloudiness/precipitation: none

Current direction and strength: ebb tide 2-4 k.

Based on the analysis of atmospheric pressure and weather fronts on 11 August 2020, at 20:00 it was established that there was a wide area of high pressure over Scandinavia, reaching the ridge over Central Europe. From Great Britain, through France, to the Iberian Peninsula, there was spreading out the area of low pressure with violent storms in some places. On the other hand, the region of the accident was covered with dry and stable air masses.

At the time of the accident, the conditions were largely clear and dry with a visibility range of more than 20 km.



*Figure 2: Analysis of the atmospheric pressure and currents*

In the opinion of the crew members, the wind was heading E to NE and it was blowing with a force of 3-4<sup>o</sup> B. The discrepancy in the opinions, as the Commission stated, resulted from the



fact that on the yacht the crew experienced the apparent wind direction and speed depending on the actual wind direction, the yacht's course and the speed of the yacht and the wind.

It was also possible that the tide wind occurred, when the wind was blowing from behind the traverse from starboard and the current was affecting the leeward side of the yacht.<sup>13</sup> The above could have contributed to an additional increase in speed on the approach to the buoy No. 27.

#### 4.3.2. Sea Currents

At the site and at the time of the accident, there was an outgoing current of the speed of 110 - 130 cm/s. (ca. 2 - 2.5 *k*) according to information prepared by BSH (Figure 4).

The actual values of currents were variable and ranged from 2 *k* at the buoy No. 32 up to 3.5 *k* near the buoy No. 27 and further. The flooded yacht was drifting between buoys No. 25 and No. 23 at a speed of ca. 3.5 *k*. It should be emphasized that the direction and speed of currents are approximate in the tables and do not take into account many aspects, including e.g. the precision of determining a specific place, weather conditions ( e.g. atmospheric pressure). The speed of the current on the shallow water will be different from that on the deepened fairway, which is important when crossing the fairway.

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<sup>13</sup> Page 212, Tom Cunliffe, „Profesjonalny skiper” ( Inshore Skipper) published by Nautica.

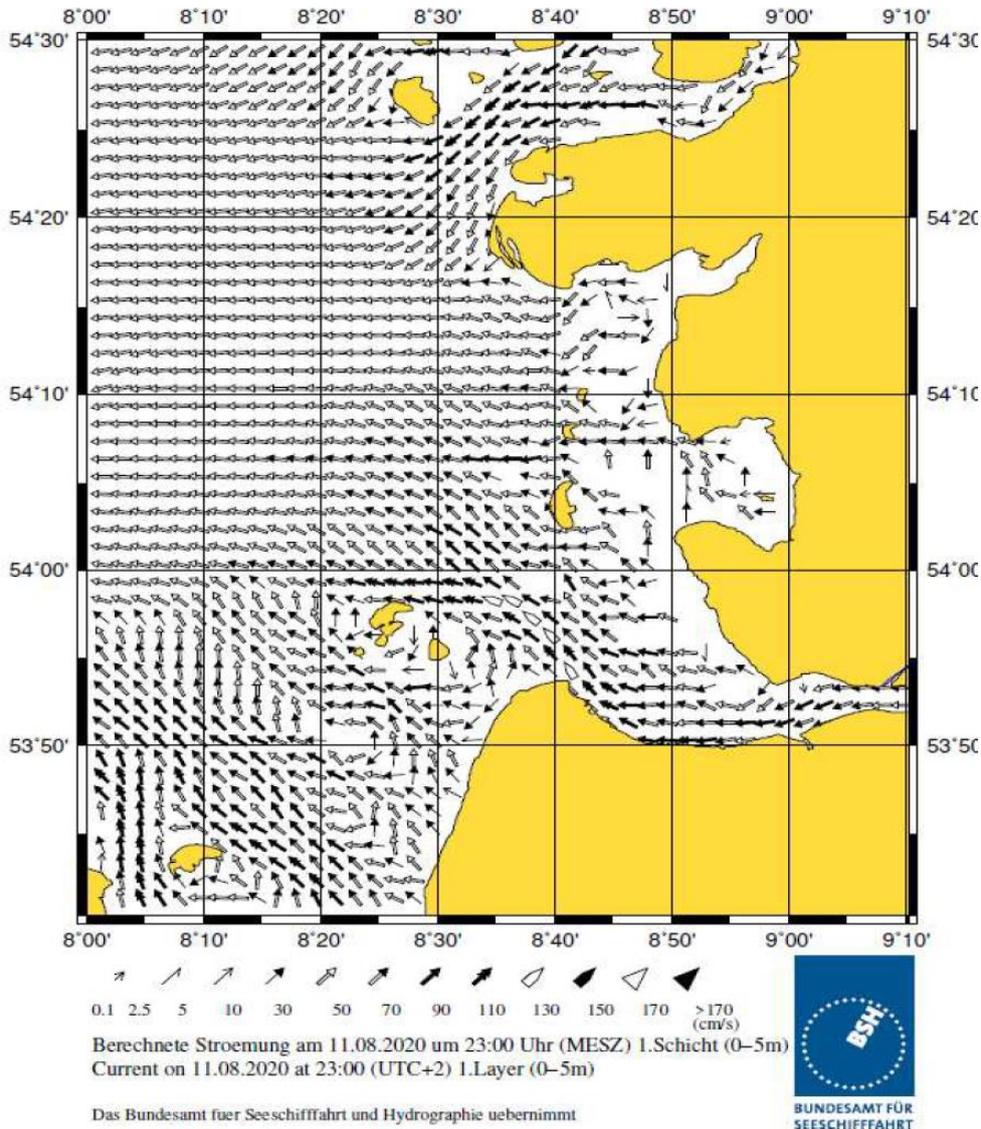


Figure 3: Directions and medium values of currents 11.08.2020 at 23:00 at the depth of 0 - 5 m<sup>14</sup>

#### 4.3.3. Navigational Buoy

The buoy knocked by the yacht was made of steel sheet.

The total height of the buoy was 9 m.

Height from the water surface ca. 4.8 m.

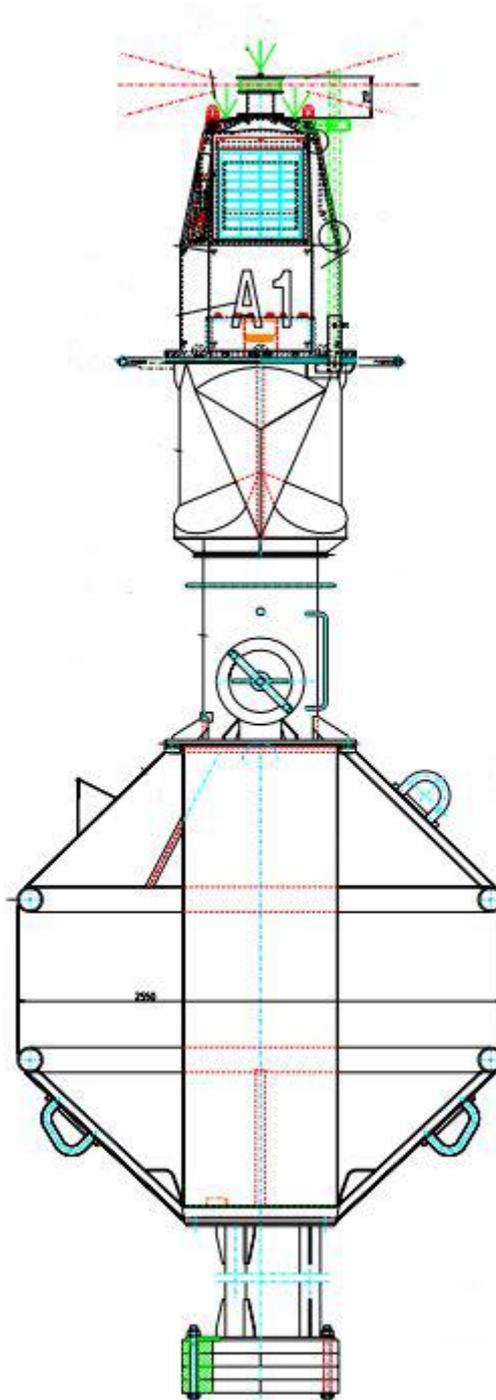
The diameter of the buoy at the water surface was 2.55 m.

At the top of the buoy, at a height of 4.8 meters, there was an omnidirectional green light with

<sup>14</sup> The forecast from the operational modeling system of BSH (German Federal Office of Navigation and Hydrography) on 11.08.2020 r., at 21:00 UTC.

the lighting characteristics: flashing, duration 4 s. (Fl, G. 4s.)

The buoy was attached to the bottom with a ca. 50 m long chain and a mooring block.



*Figure 4: Schematic drafting of the buoy*



Photograph 3: Abrasions noticeable after the contact with *Sharki*<sup>15</sup>

#### 4.4. Organizational Factors

##### 4.4.1. Route Planning

###### 4.4.1.1. Regulations

Proper planning of the route requires familiarization with the legal regulations of the countries whose waters we intend to sail. Local regulations contain a lot of valuable information regarding the maritime traffic order, and any failure to adhere to it is associated with potential financial sanctions.

German waterways, which include the Elbe from the estuary to Tinsdal/Finkenwerder upstream, are covered by traffic regulations<sup>16</sup> that take precedence over COLREG 1972.<sup>17</sup> The provisions determine the definitions of waterways indicating, at the same time, that they should be treated as a narrow passage within the meaning of the Regulation 9 of the COLREG Convention,

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<sup>15</sup> The photograph was taken on 12.08.2020 at ca. 10:30.

<sup>16</sup> Seeschiffahrtsstraßen-Ordnung (German Traffic Regulation for Navigable Maritime Waterways) – see the enclosure p. 15.1.

<sup>17</sup> The Convention on the International Regulations for Preventing Collisions at Sea, 1972.



provided that they are properly marked. The Regulation 8(d) of the COLREG<sup>18</sup> Convention requiring a safe distance for approaching, overtaking or passing vessels has been extended over fixed and floating installations in the water. When analyzing the designated route of **Sharki** to WP 3, it should be questioned whether the planned distance of passing the buoy No. 27 starboard met the requirements of that local regulation. There is a significant derogation from international regulations in §25 of the German regulations, i.e. Regulations 9(b) to (d), 15 and 18(a) to (c) related to vessels navigating on the fairway consisting in their absolute priority over vessels that enter, cross or turn on the fairway or leave the anchorage. This priority is irrespective of the conditions of visibility (the Regulation 19 does not apply), nor is it limited to vessels that can navigate safely only in the fairway. The analysis of **Sharki**' movement when crossing the fairway confirmed the compliance with the above-mentioned requirements despite the fact that the adopted course significantly extended the time of this manoeuvre.

The Commission analyzed also the compatibility of the change of the fairway's side. The provisions of section 22(3) indicate areas adjacent to the fairways, where it is necessary to follow the right side.<sup>19</sup>

In the case of the Elbe, such a requirement applies to the section between the pairs of buoys Nos. 31/32 and Nos. 35/36.

**Sharki** followed her "right side" until she passed the buoy No. 32, then she went across to the other side of the fairway which was in accordance with the rules.

#### 4.4.1.2. The Route

The yacht-master of **Sharki** had planned the transition route from Brunsbüttel to the Wadden Sea on the plotter, first staying outside the line of fairway buoys on the left side and then planning the crossing of the fairway after passing the buoy No. 30 and going beyond the line of buoys on the right side of the fairway. Further navigation had not been planned, although due to the port of destination of Heligoland it was necessary to re-cross once again the fairway or the traffic separation zone.

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<sup>18</sup> See the Enclosure p.15.2.

<sup>19</sup> The qualification of the side in this case refers to a given yacht (SB=right side).

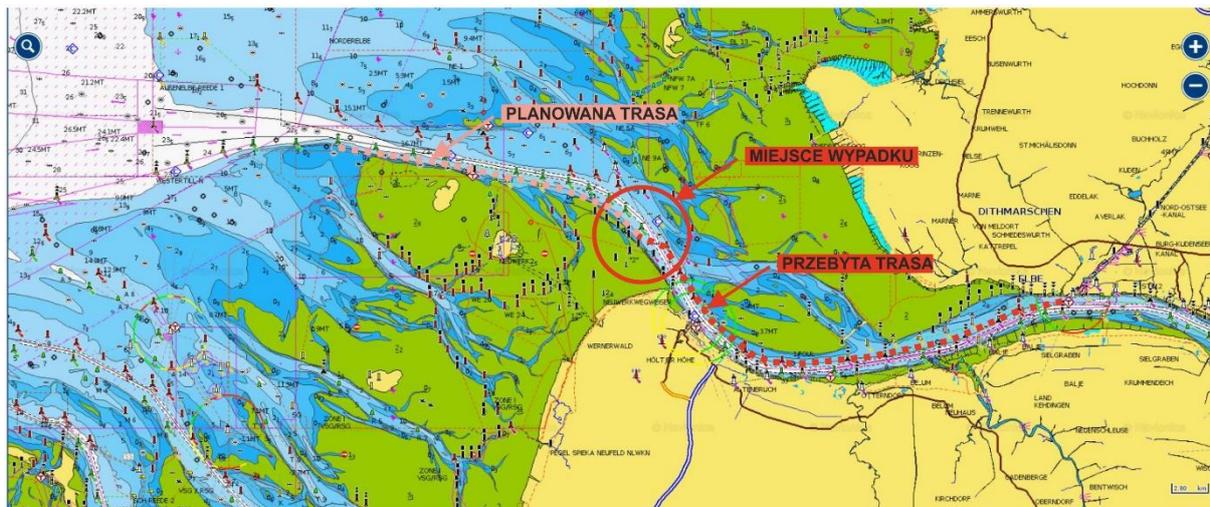


Figure 5: The route of *Sharki*

When planning the route in waters with tides and tidal currents, one should be very careful with the calculated values and directions. Caution should be expressed by appropriately increasing the distance from identified dangers on the planned route, regardless of whether it would be, for example, a sandbank or a buoy.

The elaboration of a voyage plan, as well as careful and continuous monitoring of the vessel's position while executing the plan are essential for the safety of life at sea, the safety and efficiency of navigation, and the protection of the marine environment.<sup>20</sup>

The planned route of *Sharki* went close to the buoys No. 27 and No. 25, so monitoring of her safe course was a primary matter and the duty of the yacht-master and the watch. In the opinion of the Commission, inadequate planning and monitoring of the voyage was the main cause of the collision of *Sharki* with the buoy No. 27 and sinking of the yacht as a consequence of this.

#### 4.4.2. Qualifications and Duties of the Crew

##### Familiarization with the yacht

##### Observation

The crew of the yacht on a voyage to London had sailed on this yacht many times before, and sometimes in the same composition. Getting acquainted with the yacht took place during the first embarkation. At subsequent embarkations there was no formal familiarization with the yacht or update on information. Information was exchanged informally during the talks. When

<sup>20</sup> See the Resolution A.893 (21) – the enclosure p. 15.2.



analyzing the accident, the Commission found that the level of knowledge of the yacht was not related to this incident.

### Observation

On **Sharki**, the observation had been carried out since 8:00 p.m. by members of the third watch and the yacht-master. Observation in all directions was provided from the control place. The cockpit was darkened at night.

The yacht, steered by an autopilot, provided comfortable observation possibilities. The person controlling the yacht could observe the bow through the fairing, sitting on the bench on the stern pulpit or standing on the bench at the steering wheel.

The second member of the watch, the sailor was sitting on a bench in the cockpit at starboard. From her position, she could be looking out towards the bow, along the side.

The window in the fairing was made of high-quality plastic, it had no creases, it was clean, there was no crystallized sediment from sea salt and it did not limit the visibility in any way.

On the day of the incident<sup>21</sup>:

At 21:02 the Sun set at 297°

At 21:43 there was a civil twilight<sup>22</sup>

At 22:37 there was a nautical twilight<sup>23</sup>

At 23:55 the Moon rose at 063°

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<sup>21</sup> [www.timeanddate.com](http://www.timeanddate.com)

<sup>22</sup> Sunset phase when the middle of the Sun is situated not more than 6 arc degrees below the horizon (Wikipedia).

<sup>23</sup> Time after sunset when the middle of the Sun is situated 6 arc degrees below the horizon but is still above 12° (Wikipedia).



*Photograph 4: The cockpit of Sharki*

Good visibility ensured full field of vision of all objects on the river, especially the glowing fairway buoys.

Observation is the basic element of monitoring the implementation of the voyage plan and when properly performed, it allows for early detection of any threats to the safety of the yacht and the crew.

The Commission found that if the planning and supervision of the implementation of the voyage plan fails, properly conducted observation allows for detection of danger and protection of the yacht from the accident. On the yacht, there was no continuous observation when the vessel was quickly approaching the navigational obstacle and therefore it did not prevent the accident.

### **Qualifications and Duties of the Crew**

The watch staff should be composed of people with appropriate qualifications, knowledge and skills which the yacht-master should check before entrusting the safety of the crew and the yacht for the duration of their duties. On **Sharki**, the crew knew each other and the yacht-master



had every confidence in the officers. In the part devoted to the qualifications of the crew, their high level is clearly visible, with the Commission's reservations regarding the staffing of the third watch.

The watch officer should have specific duties regarding the watch-keeping in the scope of navigation, observation, analysis of the situation in terms of the risk of collision or excessive proximity. The yacht-master should clearly define the situations when he should be summoned to the cockpit. The officer, on the other hand, should have clearly defined possibilities of taking actions related to the correction of the course for specific navigational or anti-collision reasons. The Commission found that the officers on **Sharki** had freedom of judgment as well as the opportunity to manoeuvre if the situation so required. The yacht-master was generally available 24 hours a day. Therefore, the third watch officer had full permission to make the necessary changes of the course to avoid hitting the buoy No. 27.

The navigation on **Sharki** was not based on a classical navigational chart but they put their full trust in a chartplotter with an outdated map. The paper charts were out of date. As a standard, the yacht was not steered manually, but by the autopilot while the compass heading value was entered manually. On the starboard sheet in the cockpit there were buttons for the autopilot operation. The autopilot was operational throughout the voyage. When steering the yacht, no calculations were made to determine the value of the compass course to follow the planned course over ground but course changes were made by setting a compass course<sup>24</sup> approximate to planned KDdp. Once the motion parameters were set, the actual KDdf was read and the angular difference (KDdp - KDdf) was calculated, which was actually the sum of all corrections (total correction (deviation and declination), corrections for current and wind). Then, an appropriate change of the compass course was made by the angular value of this difference, resulting in the yacht being led in accordance with the planned KDdp. Further course adjustments resulting from the drift and leeway were generally made on an ongoing basis. The above did not apply to the final phase of crossing the fairway when the changes in KDdf were not monitored by the crew and no corrective actions were taken.

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<sup>24</sup> Successively the following was taken into account: correction for the current (leeway), correction for the wind (drift), magnetic declination and deviation.

#### 4.4.3. Collision Risk Analysis

When analyzing the presented material obtained from VTS, the Commission had to take into account two elements:

- the positions of objects on the chart were updated in real time based on the radar image,
- the vectors of the presented course over ground of the vessels were obtained from AIS.

Therefore, it had to be assumed that while the vessels equipped with AIS class A, moving without major turns send information about their movement every 10 seconds<sup>25</sup>, yachts generally equipped with AIS class B emit information every 30 seconds.

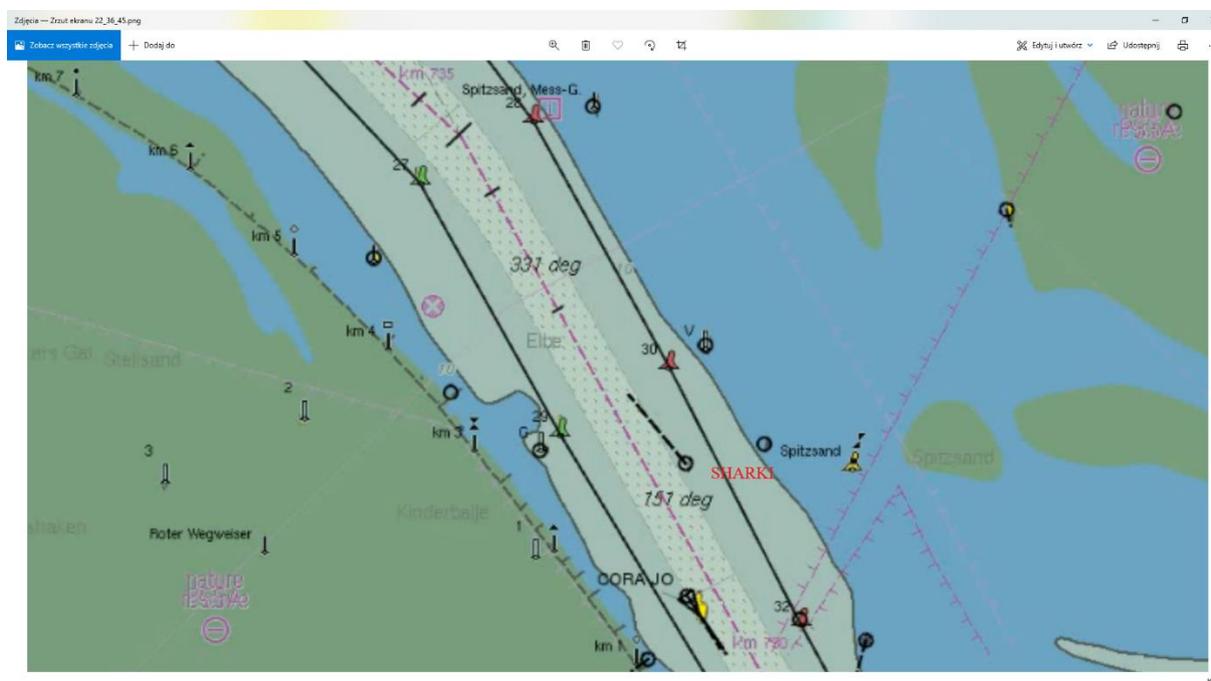


Figure 6: Position of *Sharki* at 22:36:45

After passing the buoy No. 32, a turn was made to intersect the fairway and pass the buoy No. 27 starboard. The assumed COG was  $318^{\circ}$  and the distance to be traveled was ca. 2.3 NM. The planned manoeuvre at no time disturbed the vessels navigating on the fairway, although it led to the passing of the buoy No. 27 at a distance well below 1 cable.<sup>26</sup> The Commission did not obtain any information on compass course (CC) which was set on the autopilot. The yacht

<sup>25</sup> Data refer to vessels moving at a speed of 12 k.

<sup>26</sup> Voyage plan – a photograph of the plotter image at 22:43:18

actually started to follow COG = 321°, which remained unchanged even at 22:36. The bearing for the buoy No. 27 at that point was 317°.

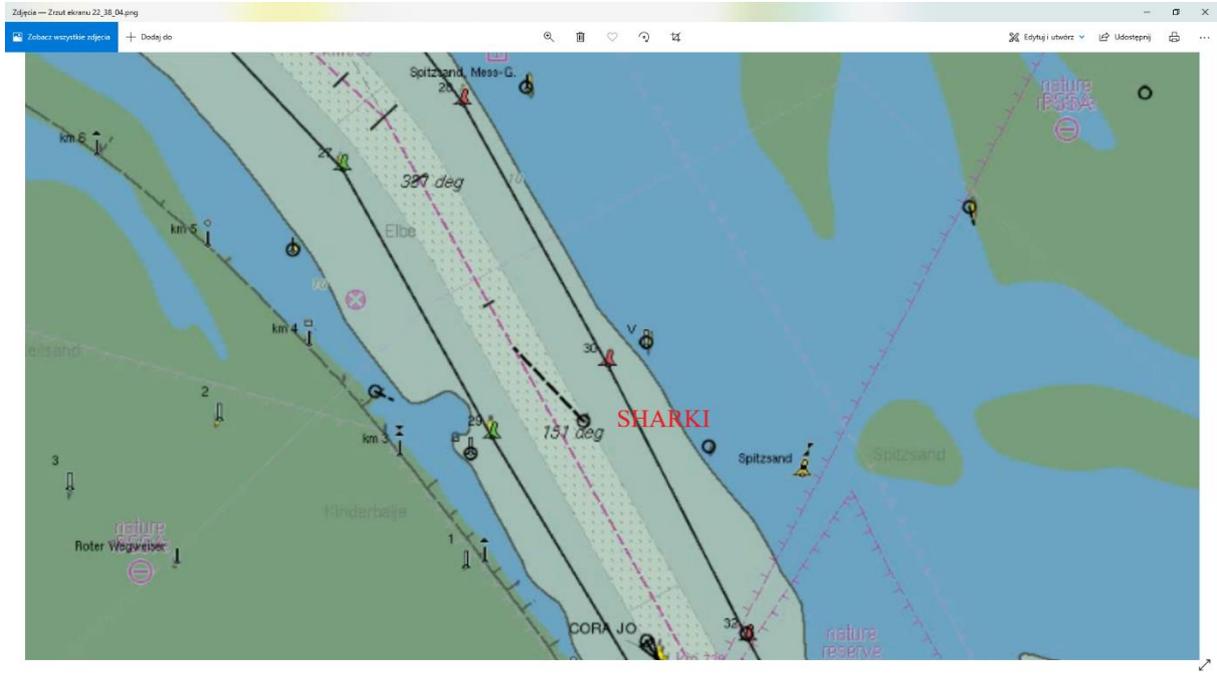


Figure 7: Position of *Sharki* at 22:38:04

The yacht was following the corrected course COG = 316° and was 1.3 NM from the buoy No. 27. The course correction was not sufficient as the course was equal to the bearing for the buoy. Sailors on board saw the buoy at about 10° from starboard.



Figure 8: Position of *Sharki* at 22:42:05

The yacht followed the unchanged course of  $316^{\circ}$  and the distance decreased to 1000 m. The buoy was still at about  $10^{\circ}$  from starboard for the observers and despite the passage of 4 minutes the hazard of a collision with the buoy No. 27 had not been observed.



Figure 9: Position of *Sharki* at 22:43:00

COG changed to  $317^{\circ}$  and it was not caused by the manoeuvres of the crew but only by the increase in speed and/or direction of the current or wind. The distance to the buoy decreased to 660 m and was still seen from the cockpit at ca.  $10^{\circ}$  from SB.

At that time, the first officer left the cockpit to take a picture of the plotter showing the reached speed of 12.1 k. The yacht-master followed the first officer and then he went further down to the caboose.



Photograph 5: Image from the plotter of *Sharki* at 22:43:18

The photo clearly shows the deviation of the yacht's route from the planned one and the decreasing distance to the buoy, the bearing of which slowly began to change to the bow. Only the crew of the third watch remained in the cockpit. The distance to the buoy was ca. 500 m.



Figure 10: Position of *Sharki* at 22:44:05

Actual COG was  $319^{\circ}$  and the distance was reduced to 275 m. No response from the crew.



Figure 11: Position of *Sharki* at 22:44:23

The course was displayed unchanged and the distance decreased to ca. 170 m. At that course, the estimated CPA when passing the port side buoy was only a dozen or so meters and compared to the length of the yacht it was still a collision course.

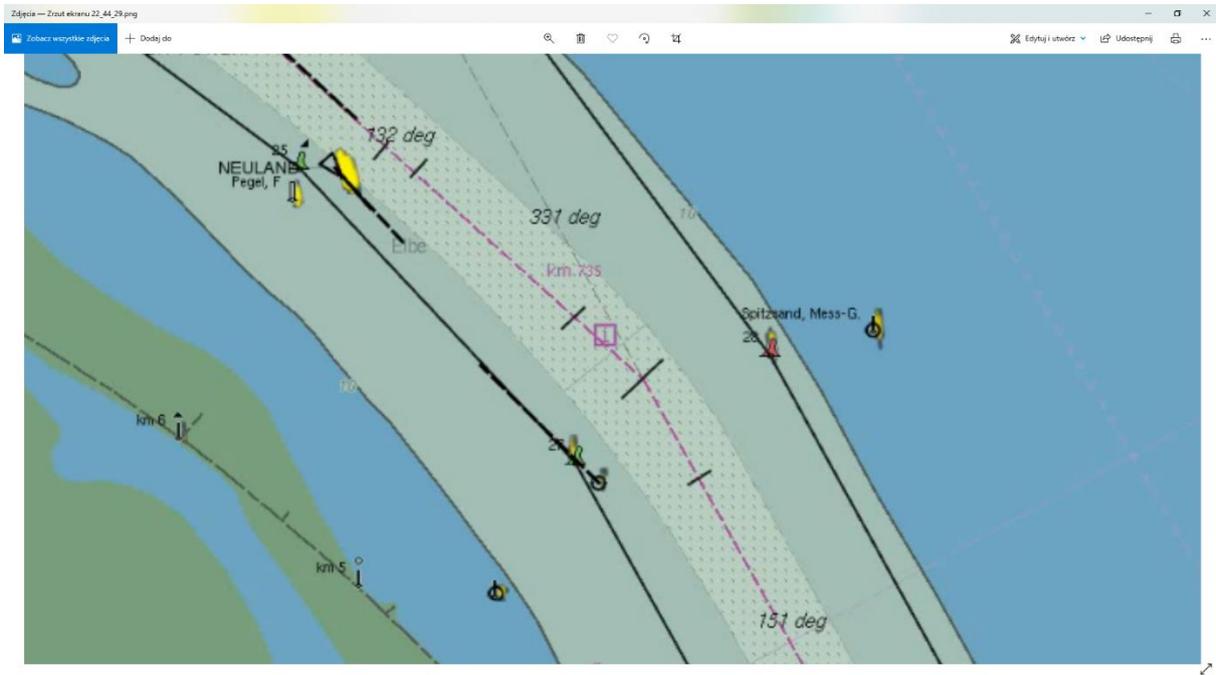


Figure 12: Position of *Sharki* at 22:44:29

A noticeable change of course to port which was sent by AIS over the past 6 seconds. A low value of change of the course when putting the rudder on the side indicated that the manoeuvre had started recently. In the yacht's position in Fig. 13, the distance between the yacht and the buoy No. 27 was ca. 120 m.



Figure 13: The moment of collision of *Sharki* with the buoy at 22:44:50



Unnoticed changes of the course over ground of the yacht while approaching the buoy No. 27 and changing the bearing to the buoy from ca. 10° from starboard to 0° resulted in the fact that they were not used in the “last moment” manoeuvre which should consist in making a turn to starboard, accelerating the departure of the yacht from the buoy.

The Commission would like to emphasize that the above finding is by no means an assessment of the yacht-master’s reaction, who, seeing the buoy in front of the yacht’s bow, had only a few seconds to decide about the turn and making it.

## 5. Description of Examination Findings Including the Identification of Safety Issues and Conclusions

After analyzing the material collected on the very serious accident of the yacht, **Sharki**, the Commission concluded that the cause of **Sharki**’s hitting the buoy No. 27 and as a consequence of sinking of the yacht was the following:

- planning navigation in a short distance from buoys Nos. 27 and 25 while passing them by starboard after crossing to the other side of the fairway,
- no current assessment of the risk of collision with navigational objects located on or near the yacht’s course,
- no observation carried out before approaching the buoy No. 27.

When planning a voyage and making it, one should remember about taking into account a safe margin of distance from dangers in order to have a chance to save the yacht from a collision or grounding in the event of a significant change in drift or leeway.

The accident analysis showed that sailors navigating generally in waters unaffected by tidal currents limit their quick safety assessments by only considering drift. Hence the lack of a sense of danger in a situation when the buoy is visible at ca. 10° to windward, and also the application of the principle of safe passing of dangers at windward. With the action of wind and current from different sides, it should be considered whether it would be a safer manoeuvre to pass the obstacle along that side which is affected by the current.

This accident should be an indication for every sailor on the yacht how important it is to plan a safe voyage, monitor its implementation and, above all, continuously observe and analyze the detected hazards to take the right actions at the right time.



## 6. Safety Recommendations

After the examination of a very serious marine accident of **Sharki**, The State Marine Accident Investigation Commission concluded that the established causes of the accident did not belong to an individual category, where issuing recommendations to a specific shipowner or master would be sufficient to avoid similar accidents in the future. The question of knowledge and compliance with the rules of safe navigation, and this is what is discussed in this case, is a problem that quite often affects sailing community. Proper planning of the voyage, proper preparation of the yacht, unambiguous determination of the capacity and obligations for the entire crew and their enforcement are essential for the successful and safe progress of the voyage. Sea shipping unquestionably verifies all negligence in this regard. The reports of the Commission abound in information helping to realize that the causes of many accidents of yachts and their crews are recurrent. Considering the above, the Commission decided to refrain from issuing recommendations and just make an appeal to the sailing community.

## 7. Commission's Recommendations

The State Marine Accident Investigation Commission considered it justified to appeal to mariners for the following:

- careful planning of the voyage keeping a safe distance from all known navigational obstacles and hazards;
- observing the yacht while sailing, using all available means, paying particular attention to the importance of visual observation as the source of the fastest information about changes in the movement of vessels which see each other;
- establishing, as one of the primary duties of the watch officers, a continuous analysis of the risk of collision with vessels or other obstacles on or in the vicinity of the yacht's route;
- adopting as a rule the obligation to conduct classic navigation on current charts in addition to the use of popular electronic devices;
- clearly establishing the powers and responsibilities of all crew members during the voyage, from signing on to signing off;
- taking into account possible health restrictions of the crew members when assigning tasks and responsibilities on board,
- timely inspection of the yacht's equipment, and in particular radio and rescue equipment,
- updating radio licenses, registration of EPIRB and PLB at the Civil Aviation Authority.



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## 10. Glossary and Abbreviations

AIS - Automatic Identification System

B (Beaufort) – wind speed scale

BSH – Bundesamt für Seeschifffahrt und Hydrographie – German Federal Office of Navigation and Hydrography

BSU - Bundesstelle für Seeunfalluntersuchung – German Federal Bureau of Investigation of Maritime Accidents

CEST - Central European Summer Time

CPA - Closest point of approach

DSC - Digital Selective Calling

E – East, eastern direction

EPIRB - Emergency Position-Indicating Radio Beacon

FRB - Fast Rescue Boat

GPS - Global Positioning System

h – hour

HW – high water

IMO - International Maritime Organization

Cable-length – a nautical unit of measure (182.5 m)

LSA Code - Life Saving Appliances Code

CMG – Course Made Good

COG – Course Over Ground

PS – port side

MI – Ministry of Infrastructure

Nm – nautical mile

MMSI - Maritime Mobile Service Identity

MRCC -Maritime Rescue Coordination Centre (Bremen, Germany)

N – North – northern direction

NW – North West – north-western direction

SB - starboard

PLB - Personal Locator Beacon

PZŻ – Polish Yachting Association

SAR - Search and Rescue



SOG – speed over ground

UKE – Office of Electronic Communication

ULC – Office of Civil Aviation

*k* – knot (speed unit)

W - West – western direction

VHF –very high frequency (here: VHF marine communication)

VTS - Vessel Traffic Service

UTC - Universal Time Coordinated

## 11. Participation of Other States

The Commission expresses the acknowledgments to the German Federal Bureau of Investigation of Maritime Accidents (BSU-Bundesstelle für Seeunfalluntersuchung) and the German Water Police (Wasserschutzpolizei) for their significant contribution to the collection of information and evidence related to the accident of the yacht, **Sharki**.

## 12. Information Sources

- depositions of the accident participants
- BSU materials: photographs, expert’s weather report, VTS recordings, SAR report, local and plans of the fairway buoy and materials of the German waterway police (Wasserschutzpolizei)
- Information obtained from the Maritime Office in Szczecin, UKE Gdynia and PZZ
- Master’s report on the state of hull
- Photographic material of the owner and of the Commission
- Figure use maps created in the chart plotter navigation software OpenCPN.

## 13. Composition of the Accident Investigative Team

Team leader – Tadeusz Wojtasik – the Chairman of the Commission

Team member – Marek Szymankiewicz – the Secretary of the Commission



## 14. Enclosures

### 14.1. German Traffic Regulations for Navigable Maritime Waterways (extract)

#### German Traffic Regulations for Navigable Maritime Waterways

English version of the Seeschiffahrtsstraßen-Ordnung permanently updated.

Edition Amended to “Nachrichten für Seefahrer”

Weekly Edition 06, dated 8 February 2019

#### Part One

#### General provisions

##### § 1 Area of application (...)

(1) The present Ordinance shall apply on the German waterways navigable by sea-going ships (hereinafter referred to as “navigable waterways”) with the exception of the Ems Estuary, the latter being delimited, to the East, by a line connecting a point in the Pilsumer Watt in position 53° 29’ 08” N 007° 01’ 52” E, a point off the island of Borkum in position 53° 34’ 06” N 006° 45’ 31” E, and a point in position 53° 39’ 35” N 006° 35’ 00” E. For the purposes of the present Ordinance, the term “navigable waterways” shall include: (...)

6. the River Elbe upriver to the downriver limit of the Port of Hamburg at km 638.98 right riverbanks (Tinsdal) and km 633.35 left riverbanks (Finkenwerder), including the by-waters known as the “Wischhafener Süderelbe” (from its mouth upriver to km 8.03), the “Ruthenstrom” (from its mouth upstream to km 3.75), and the “Bützflether Süderelbe” (from its mouth upriver to km 0.69);

(4) Unless the present Ordinance expressly provides otherwise, the provisions of the International Regulations for Preventing Collisions at Sea, 1972 as reproduced in the Annex to Section 1 of the Ordinance to Implement the International Regulations for Preventing Collisions at Sea, 1972, of 13 June 1977 (promulgated in the Federal Law Gazette I, p 813) and last modified by Article 4 Item 6 of the Ordinance of 7 December 1994 (promulgated in the Federal Law Gazette I, p 3744) as amended from time to time and in force for the Federal Republic of Germany, shall also apply in the area of application of the present Ordinance.

##### § 2 Definitions

(1) The definitions given in Rules 3, 21, and 32 of the International Regulations for Preventing Collisions at Sea, 1972, as amended, shall also apply for the purposes of the present Ordinance; moreover, the definitions given hereunder shall apply for the purposes of the Ordinance:



## 1. Fairway

The term “fairway” denotes those parts of navigable waters that are marked or delimited by any one or more of the visual signs described under Items B.11 through B.13 of Annex I to the present Ordinance or, when they are not so marked or delimited, those parts of such waters that are designated for the through passage of vessels to or from inland waterways; any such fairway shall be deemed a “narrow channel” in terms of the International Regulations for Preventing Collisions at Sea, 1972, as amended;

2. starboard side of a fairway the term “starboard side of a fairway” denotes that side of a given fair-way that lie to the starboard side of a vessel coming in from the sea. Where a fairway connects two parts of the sea or two bodies of water separated from one another by shallows, the “starboard side of a fairway” shall be deemed to be that side of a fairway that a vessel arriving from the “West” as defined in the following parenthesis passes on her starboard side. (The term “West” includes any direction of the compass rose from North, including North proper, to West to South, excluding South proper). In the event that a fairway of such kind is heavily curved, the northernmost entry to such fairway shall be taken as the criterion for defining the “starboard side of a fairway”;

## Part Four

### Sailing rules

#### § 21 Basic principles

(1) The sailing rules contained in the present Part as well as those contained in Part Seven shall apply irrespective of the conditions of visibility prevailing. In derogation of the provisions of Rules 11 and 19 of the International Regulations for Preventing Collisions at Sea, 1972, as amended, the provisions of Rules 13(a) and (c) as well as those of Rules 14(a) and (c) of the International Regulations for Preventing Collisions at Sea, 1972, as amended, shall apply to vessels in a fairway even if such vessels are not in sight of each other but have located each other by radar.

(2) When meeting, overtaking, or passing other vessels or fixed or floating installations, vessels shall do so at a safe distance in terms of Rule 8(d) of the International Regulations for Preventing Collisions at Sea, 1972, as amended.

#### § 22 Exceptions from the requirement to proceed on the starboard side of a fairway



(2) Any vessel proceeding outside a fairway shall do so in such a manner as to make it clear for anyone to see that such vessel does not use the fairway.

(3) When navigating outside a fairway in waters made known by a Notice or Notices under the provisions of Section 60(1) below, all vessel categories as made known by a Notice or Notices under the provisions of Section 60(1) below shall keep to the right-hand side of the fairway as seen when looking in the direction in which they are proceeding.

### **Requirement to keep to the right-hand side of the fairway when proceeding outside a fairway**

#### **(Section 22(3) SeeSchStrO)**

Waters outside the fairway where vessels must keep to the side on the right-hand of the fairway as seen in the direction they are proceeding: (...)

#### **7.2.1 River Elbe**

7.2.1.1 The stretch of the fairway between the buoy pairs 31/32 to 35/36 for all vessels in transit.

#### **§ 25 Right of way of ships in a fairway**

(1) In derogation of the provisions of Rules 9(b) to (d), 15, and 18(a) to (c) of the International Regulations for Preventing Collisions at Sea, 1972, as amended, the regulations contained in the following paragraphs shall apply to vessels navigating in a fairway.

(2) A vessel proceeding along the course of the fairway channel, irrespective of whether or not she can safely navigate only within the fairway channel, shall have the right of way over vessels

1. entering that fairway,
2. crossing that fairway,
3. making turns in that fairway,
4. leaving their anchoring or mooring grounds.

(3) Where a sailing vessel is not clearly proceeding along the course of the fairway channel, her conduct towards other sailing vessels shall be governed by the provisions of the International Regulations for Preventing Collisions at Sea, 1972, as amended, always provided that none of the vessels will impede or endanger any vessel having the right of way.

(4) A vessel navigating in a fairway, whether or not she is actually proceeding along the course of the fairway channel, shall have the right of way over vessels entering that fairway from a fairway branching off or joining it.



## 14.2. IMO Regulations

### SOLAS 74 Convention (extract)

#### Regulation 34

Safe navigation and avoidance of dangerous situations:

1 Prior to proceeding to sea, the master shall ensure that the intended voyage has been planned using the appropriate nautical charts and nautical publications for the area concerned, taking into account the guidelines and recommendations developed by the Organization<sup>27</sup>.

2 The voyage plan shall identify a route which:

- .1 takes into account any relevant ships' routing systems;
- .2 ensures sufficient sea room for the safe passage of the ship throughout the voyage;
- .3 anticipates all known navigational hazards and adverse weather conditions; and
- .4 takes into account the marine environmental protection measures that apply, and avoids as far as possible actions and activities which could cause damage to the environment.

#### Resolution A.893 (21) (extract)

##### 1 Objectives

1.1 The development of a plan for voyage or passage, as well as the close and continuous monitoring of the vessel's progress and position during the execution of such a plan, are of essential importance for safety of life at sea, safety and efficiency of navigation and protection of the marine environment.

1.2 The need for voyage and passage planning applies to all vessels. There are several factors that may impede the safe navigation of all vessels and additional factors that may impede the navigation of large vessels or vessels carrying hazardous cargoes. These factors will need to be taken into account in the preparation of the plan and in the subsequent monitoring of the execution of the plan.

1.3 Voyage and passage planning includes appraisal, i.e. gathering all information relevant to the contemplated voyage or passage; detailed planning of the whole voyage or passage from

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<sup>27</sup> Refer to the Guidelines for Voyage Planning, adopted by the Organization by resolution A.893(21).



berth to berth, including those areas necessitating the presence of a pilot; execution of the plan; and the monitoring of the progress of the vessel in the implementation of the plan (...)

#### 4 Execution

4.1 Having finalized the voyage or passage plan, as soon as time of departure and estimated time of arrival can be determined with reasonable accuracy, the voyage or passage should be executed in accordance with the plan or any changes made thereto (...)

4.3 It is important for the master to consider whether any particular circumstance, such as the forecast of restricted visibility in an area where position fixing by visual means at a critical point is an essential feature of the voyage or passage plan, introduces an unacceptable hazard to the safe conduct of the passage; and thus whether that section of the passage should be attempted under the conditions prevailing or likely to prevail. The master should also consider at which specific points of the voyage or passage there may be a need to utilize additional deck or engine room personnel (...)

### **COLREG 72 Convention** (extract)

#### **Rule 7**

##### **Risk of Collision**

(a) Every vessel shall use all available means appropriate to the prevailing circumstances and conditions to determine if risk of collision exists. If there is any doubt such risk shall be deemed to exist.

(b) Proper use shall be made of radar equipment if fitted and operational, including long-range scanning to obtain early warning of risk of collision and radar plotting or equivalent systematic observation of detected objects.

(c) Assumptions shall not be made on the basis of scanty information, especially scanty radar information.



(d) In determining if risk of collision exists the following considerations shall be among those taken into account:

(i) Such risk shall be deemed to exist if the compass bearing of an approaching vessel does not appreciably change;

(ii) such risk may sometimes exist even when an appreciable bearing change is evident, particularly when approaching a very large vessel or a tow or when approaching a vessel at close range.

## **Rule 8**

### **Action to avoid Collision**

(a) Any action to avoid collision shall be taken in accordance with the Rules of this Part and shall, if the circumstances of the case admit, be positive, made in ample time and with due regard to the observance of good seamanship.

(b) Any alteration of course and/or speed to avoid collision, shall, if the circumstances of the case admit, be large enough to be readily apparent to another vessel observing visually or by radar ; a succession of small alterations of course and/or speed should be avoided.

(c) If there is sufficient sea room, alteration of course alone may be the most effective action to avoid a close-quarters situation provided that it is made in good time, is substantial and does not result in another close-quarters situation.

(d) Action taken to avoid collision with another vessel shall be such as to result in passing at a safe distance. The effectiveness of the action shall be carefully checked until the other vessel is finally past and clear.

(e) If necessary to avoid collision or allow more to assess the situation, a vessel shall slacken her speed or take all way off by stopping or reversing her means of propulsion.



(f)

(i) A vessel which, by any of these Rules, is required not to impede the passage or safe passage of another vessel shall, when required by the circumstances of the case, take early action to allow sufficient sea room for the safe passage of the other vessel.

(ii) A vessel required not to impede the passage or safe passage of another vessel is not relieved of this obligation if approaching the other vessel so as to involve risk of collision and shall, when taking action, have full regard to the action which may be required by the Rules of this part.

(iii) A vessel the passage of which is not to be impeded remains fully obliged to comply with the rules of this part when the two vessels are approaching one another so as to involve risk of collision.

## **Rule 9**

### **Narrow Channels**

(a) A vessel proceeding along the course of a narrow channel or fairway shall keep as near to the outer limit of the channel or fairway which lies on her starboard side as is safe and practicable.

(b) A vessel of less than 20 metres in length or a sailing vessel shall not impede the passage of a vessel which can safely navigate only within a narrow channel or fairway.

(c) A vessel engaged in fishing shall not impede the passage of any other vessel navigating within a narrow channel or fairway.

(d) A vessel shall not cross a narrow channel or fairway if such crossing impedes the passage of a vessel which can safely navigate only within such channel or fairway. The latter vessel may use the sound signal prescribed in Rule 34(d) if in doubt as to the intention of the crossing vessel.



(e)

(i) In a narrow channel or fairway when overtaking can take place only if the vessel to be overtaken has to take action to permit safe passing, the vessel intending to overtake shall indicate her intention by sounding the appropriate signal prescribed in Rule 34(c)(i). The vessel to be overtaken shall, if in agreement, sound the appropriate signal prescribed in Rule 34(c)(ii) and take steps to permit safe passing. If in doubt she may sound the signals prescribed in Rule 34(d).

(ii) This Rule does not relieve the overtaking vessel of her obligation under Rule 13.

(f) A vessel nearing a bend or an area of a narrow channel or fairway where other vessels may be obscured by an intervening obstruction shall navigate with particular alertness and caution and shall sound the appropriate signal prescribed in Rule 34(e).

(g) Any vessel shall, if the circumstances of the case admit, avoid anchoring in a narrow channel.

### **14.3. Domestic Regulations**

#### **Regulation of the Minister of Transport, Construction and Maritime Economy of 28 February 2012 concerning safe navigation of yachts<sup>28</sup> (extract)**

§5. The yacht can be used in sea navigation if it meets the safety requirements in terms of technical condition, manning, life-saving equipment, signaling, navigation and fire protection equipment,

radio communication equipment, on-board and emergency equipment and other requirements specified in the Regulation.

§ 6. In order to ensure the safety of navigation, the yacht-master should:

1) plan the journey taking into account the experience and qualifications of the crew, weather forecasts, foreseeable dangers in navigation and other factors that may affect the safety of the journey;

2) before starting the journey, he should check the technical condition of the yacht and her equipment, including life-saving devices and distress and emergency call devices;

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<sup>28</sup> Uniform text in the Journal of Laws: Dz. U. of 2016 item 1557.



3) familiarize the crew members and passengers with the methods of making a distress call and basic emergency procedures in the event of an emergency on the yacht, including the event of a man falling overboard, fire, leakage or the necessity to abandon the yacht, and train crew members and passengers in the use of emergency measures and the safety measures with which the yacht is equipped;

4) during navigation, ensure continuous observation of the water area, hydrological, meteorological and navigational conditions;

5) ensure that persons who cannot swim are wearing personal buoyancy aids;

6) ensure that personal buoyancy aids or safety belts are worn:

a) at night,

b) on vessels where, in the yacht-master's opinion, there is a significant risk of the yacht capsizing, or

c) in difficult weather conditions;

7) take any other measures resulting from the principles of good seamanship.