



**SMAIC**  
STATE MARINE ACCIDENT  
INVESTIGATION COMMISSION

# FINAL REPORT

# 21/17

**Very serious marine casualty**

**SAILING YACHT *DUNLIN***

Death of a person steering the yacht due to getting  
drowned in the North Sea on the day of 23 April 2017

**April 2018**



The investigation of a very serious marine casualty of the sailing yacht Dunlin was conducted under the State Marine Accident Investigation Commission Act of 31 August 2012 (The Journal of Laws item 1068 as amended) 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).

**State Marine Accident Investigation Commission**

Plac Stefana Batorego 4, 70-207 Szczecin

Landline: +48 91 44 03 290

Mobile: +48 664 987 987

e-mail: [pkbwm@mgm.gov.pl](mailto:pkbwm@mgm.gov.pl)

[www.pkbwm.gov.pl](http://www.pkbwm.gov.pl)



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## 1. Facts

On 23 April 2017, the LM-24 sailing and motor yacht *Dunlin* grounded at the approach to the strait separating the Dutch islands of Vlieland and Texel in the archipelago of West Frisian Islands. There was one person on board, the owner of the yacht. A strong drift turned over the yacht and crushed its hull. The captain, without calling for help, was trying to evacuate by launching a pneumatic life-raft. The rescue service had been notified by a casual observer ashore who had noticed the yacht sailing in a dangerous direction. The Dutch rescue service KNRM immediately started the search and rescue action. An hour after the rescue action had been launched the rescue helicopter found the captain's body in the sea near the empty pneumatic raft. The KNRM service towed the wrecked yacht to the beach of Vlieland, from where it was taken for police investigation.

## 2. General Information

### 2.1. Yacht Particulars

Name:	<i>Dunlin</i>
Flag:	Polish <sup>1</sup>
Owner:	Paweł Strzechowski
Classification society:	Non-classified
Yacht's type:	LM-24
Call signal:	No call sign <sup>2</sup>
IMO numer:	No IMO numer
Gross tonnage:	2,5 t
Year of built:	Unknown, before 1984 <sup>3</sup>
Power:	20 HP (Bukh embedded engine)
Width:	2.52 m
Length overall:	7.20 m

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<sup>1</sup> The yacht has not been registered in Poland

<sup>2</sup> British registration number SSR 99049

<sup>3</sup> LM-24 were built in the period of 1973-1984. Source: [sailboatdata.com](http://sailboatdata.com)

Hull material: Glass reinforced polyester resin



*Photograph 1: Dunlin*

## 2.2. Voyage Particulars

Ports en route: Conwy (North Wales), Scarborough (England)  
Port of destination: Brunsbüttel (Germany)  
Type of navigation: Seagoing  
Manning: 1 Pole  
Passenger information: No passengers

## 2.3. Accident Information

Kind: Very serious marine casualty  
Date and time of the event: 23 April 2017 at ca.09:30  
Geographical position of the event:  $\varphi = 53^{\circ} 13.47' N$  ;  $\lambda = 004^{\circ} 51.66' E$   
Geographical area of the event: North Sea, West Frisian Islands -Eierlandsche Gronden

Nature of the water region:	coastal waters, Dutch territorial sea
Weather during the event:	wind NW 5-6° B, sea state 4-5, water temp. 8° C, air temp. 8° C
Operational status of the yacht:	On the way under sails, recreational sailing
Effects of the accident to the yacht:	Total loss
Effects of the accident to the people:	The captain of the yacht was drowned



Figure 1: Place of accident of 23 April 2017 and search region (IENC chart)

#### 2.4. Shore Services and Rescue Action Information

On 23 April 2017 at 09:49, the KNRM service received a notification about a sailing yacht that ran aground in the Eierlandsche Gronden shallows. It was a telephone notification by a person who was at the southern tip of Vlieland and saw the yacht before it disappeared among



the waves. Six KNRM surface vessels were sent from the bases in Vlieland, Cocksdoorp, Terschelling, and Den Helder, two NHV<sup>4</sup> helicopters (alternating their operations), Kustwacht patrol aircraft and a shore search team equipped with surface-launched water unit.

First two surface vessels appeared at the site at 10:16 from the Vlieland base, and the shore team appeared at 10:22.

At 10:21 CG08 helicopter reached the wreck of the yacht and at 10:34 it found an empty pneumatic life raft and an empty life jacket.

At 10:48 the helicopter took the body of the captain from the sea near the raft.

The surface and air crafts continued their search, because the rescuers were not aware of the number of people on board who might have been lost as a result of the accident. By radio, a British yacht navigating 5 NM from the shore was called to check if he had any information about the vessel that had suffered an accident.

The search for possible other crew members was continued from land, water and air until 14:27, finding another life jacket in the sea and various drifting elements of the yacht and its equipment. During the inspection of the wreck and picked up items, a travel bag and a kitesurfing board were found, from which the contact data were read indicating the person was a resident of the Tri-City in Poland. The Dutch services turned to MRCK Gdynia requesting the contact and to determine the details of the yacht and its crew. In order to carry out that task it was necessary to send a photo of the card from the bag to Poland, because the Dutch transliteration of the Polish record turned out to be wrong and incomprehensible. Around 13:00 a contact was made with the owner of the bag and the board, who confirmed that there was only one person on board which ended the search action.

In collecting information about the yacht and crew the Nederlandse Kustwacht<sup>5</sup> and the KNRM service cooperated with MRCC Humber and MRCK Gdynia.

Two KNRM crafts towed the wreck of the yacht to the beach on Vlieland at ca. 15:00, where it was lifted by a crane and loaded onto a truck.

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<sup>4</sup> NHV: Noordzee Helikopters Vlaanderen, the operator of air services covering, among other search and rescue actions cooperating with Dutch SAR (KNRM).

<sup>5</sup> Dutch border guards.



*Photograph 2: The wreck of the yacht after it had been towed to the beach (source: Maritime Politie)*

### 3. Circumstances of the Accident

On 21 April 2017, the LM-24 motor and sailing yacht *Dunlin* left the British port of Scarborough (Yorkshire). The journey started at the beginning of April in the port of Conwy (North Wales) and it was to end in Poland. The crew of the yacht leaving Conwy was composed of three people. The owner of the yacht purchased in October 2016 was accompanied by two familiar sailors. It was the first voyage on *Dunlin* for both the new owner and for the entire crew. In Conwy, the new owner took over the yacht. Three sailors collected the equipment and supplies for the voyage to Poland. The function of the captain was taken by the most experienced crew member who was training the others during the voyage.

*Dunlin* sailed through the Caledonian Canal to the east coast of Scotland and headed south, often sailing in difficult conditions, due to strong winds. After a few days, one of the crewmen went ashore and returned to Poland. In the course of the journey the owner of the yacht was gaining more and more confidence in controlling the yacht so he started to insist on taking over the function of the captain and making personal decisions concerning its control.



The remaining two sailors - the owner and the captain of the yacht (a travel companion) reached Scarborough, where the yacht was left by the other crew member - the former captain. Before leaving the yacht, the disembarking sailor discussed with the owner of the yacht the plan of the further voyage advising him to sail along the east coast of Great Britain to the south first, then head east, reaching the Netherlands or Belgium in an area where the distance between the English coast and the continent is the shortest. Considering that *Dunlin* was found near Vlieland on 23 April it should be assumed that he probably did not follow that advice and immediately left Scarborough heading straight in the south-eastern direction taking the shortest passage to the coast of the Netherlands.

In that part of the journey the yacht took advantage of a favorable, strong wind blowing from the north-west. Almost two days spent at sea must have been exhausting for a lonely captain because he had to be very attentive when sailing near numerous oil fields and various watercrafts moving in this area.

On 23 April 2017 at 9:32 the said person, who was a crew member in the first part of the voyage from Conwy received in Poland a telephone call from *Dunlin*. It was the captain calling and saying that “*he is about to arrive*”, that “*the sea is high*” and that he intends to” hide behind the islands. It was heard that the *Dunlin*’s captain had a difficult time so the interlocutor did not enquire about the details of the situation, telling the captain not to prolong the conversation, but to focus on managing the yacht.

On the same day at ca. 9:40 a yacht was noticed by a resident of Vlieland, who was driving a tractor on the southern tip of the island (Vliehorst). The yacht carried two sails - a seal and a tip, and headed - as it seemed - towards the strait separating the islands of Vlieland and Texel. The observer on the tip of Vliehorst found that a small vessel - on evidently rough sea and in close proximity to dangerous shallows - was in trouble. Soon he lost sight of the yacht and notified Kustwacht by phone.

The notified KNRM service immediately launched the action, sending an NHV helicopter stationed in Den Helder and numerous surface vessels.

About 30 minutes after the notification, the helicopter found a wreck of the yacht with no mast and an empty life jacket, and 13 minutes later - another life jacket, an empty life raft and the corpse floating nearby, which were taken up and handed over to land.

The yacht LM-24, which ran aground the Eirelandsche Gronden, carried the name of

*Dunlin* and the British SSR<sup>6</sup>, registration number, but it did not have a name of the port of registry. On the stern flagpole there was flying the Polish flag. Near the wreck various pieces of equipment and wooden parts of the interior were found. The wreck was towed to a nearby beach.

The yacht towed to the beach was inspected, documenting the damage and condition of the equipment. The hull which was cracked and extensively damaged in many places, was partly delaminated.



*Photograph 3: Visible delamination of the hull*

The mast, broken in several places, was hanging on damaged fixed rigging. The foresail was completely rolled up on the roller, and the mainsail was trimmed and temporarily attached to the boom.

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<sup>6</sup> Small Ship Register – British register of small vessels.



*Photograph 4: Fixed rigging after the yacht had been taken ashore*

The rudder blade was broken just under the hull and disappeared. Steering devices – the tiller (broken) and the steering wheel in the interior console (torn out together with the bulkhead) - despite the damage indicated that the rudder was in working order until the grounding.



*Photograph 5: Steering wheel torn out with the bulkhead*



*Photograph 6: Visible trace of the broken rudder blade*

The key in the engine control panel was in the „Run” position.



*Photograph 7: The engine control with the key in the „Run” position*

The pull rod of the engine control lever was broken, so the position of the ignition lever did not allow to determine whether the engine was on revolutions when it was stopped. The V-belt was stretched correctly. The level of fuel in the tank could not be determined because the tank was torn out of the fasteners and separated from the yacht. The filter with the water separator, installed in the engine power line, was heavily contaminated with oily sediment, but there was no water in the engine.

One of the three propeller blades was broken and missing.



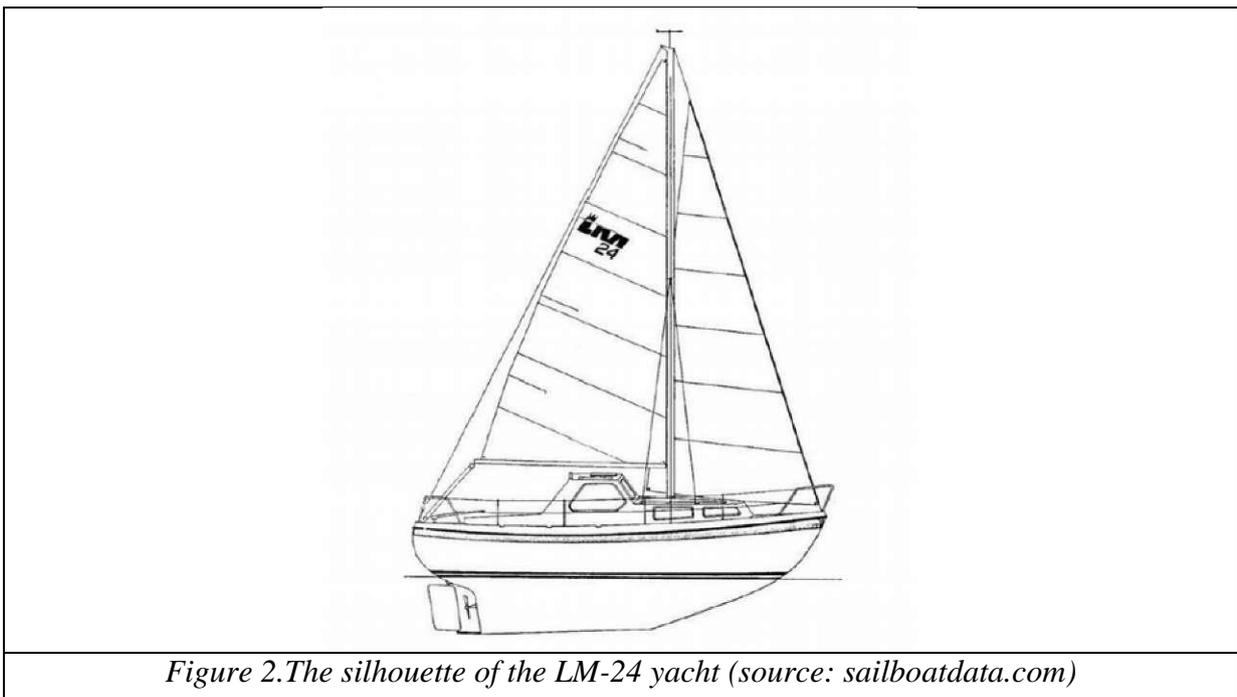
*Photograph 8: The screw propeller with visibly broken down one of the three blades*

The interior and navigation equipment - radar, chart plotter Simrad, Furuno GPS receiver, VHF stationary radiotelephone with DSC Icom, were destroyed in water.

Dutch police closed the inspection on 2 May 2017, and the Dutch Investigation Authority Research Council<sup>7</sup> did not investigate the incident.

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

*Dunlin* is a small motor and sailing yacht of the LM-24 type, designed and built in series between 1973-1984 by the Danish company LM-Glasfiber A/S. In total, there were built about 650 yachts. The company LM-Glasfiber S/A, currently specializing generally in composite constructions, started to build yachts with the LM-27 model in 1972, and finished in 1995.



LM-24, of the overall length of 7.20 m, width of 2.52 m, sail surface of 23 m<sup>2</sup>, displacement of 2500 kg, ballast weight to displacement ratio of 40% and surface of sails to displacement ratio of 12.5 m has got a shallow (immersion of 1 m) and long keel and a large windage area, resulting from a tall, “pilothouse” type superstructure, providing a standing position in the galley and navigational area.

<sup>7</sup> Onderzoeksraad voor Veiligheid - Dutch Safety Board



*Dunlin* was equipped with a 2-cylinder Bukh diesel engine with a capacity of 20 hp. Before the accident, the yacht had been in good general condition, although the wreck test showed negligence in engine maintenance.

At the initial stage of the voyage, the yacht experienced a failure (incineration) of the part of wiring of the electrical system. The crew removed it on their own by exchanging cabling.

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

The damage suffered by *Dunlin* was so extensive that it cannot be determined which of it occurred as a result of waves, also those which bumped the yacht against the bottom, and which of it had occurred before the accident and perhaps had contributed to it.

The factor that could have contributed significantly to the accident was the pollution of the fuel filter. This could have led to the loss of power or the engine to stop in a situation where it was the only means of propulsion, when the yacht was drifting to the imminent danger.

#### **4.2. Human Factors (faults and negligence)**

There was only one person on board whose voyage was terminated by the accident - the owner and captain of *Dunlin*. The captain, 57 had the license of a sea helmsman for several months (from September 2016) but his maritime experience was limited to the internship as part of the training, although he had sailing experience in inland waters. The transition from Scarborough to the Netherlands was for him the first independent sea voyage, the first lonely one and the first in the area of the Frisian Islands.

The captain had broad interests, including travel and expedition, covering various disciplines requiring bold and risky ventures. In the recent period, he clearly turned his attention to long-distance voyages, observing on the Internet solo ocean voyages and circumnavigation of the world.

Before buying the yacht, he intended to acquire relevant knowledge by participating in formal sailing training, but during the voyage he did not try to make the most of practical skills, especially in the field of navigation, which could be passed to him by more experienced traveling companions. In part, this may have been due to his assertive attitude and partly due to the lack of knowledge of English and the reluctance to use aids in foreign language.



From Conwy to Scarborough, the yacht was managed by an experienced sailor, who was asked for help in taking it to Poland by the owner of *Dunlin*, being aware of his lack of experience.

He helped the owner to furnish the yacht with necessary equipment and navigational aids, and until 21 April he acted as a captain. In Scarborough, the owner definitely decided that he was able to make his own decisions and as a result he remained alone on the yacht.

In the first days of the voyage, there was a third sailor on board, with large experience in regatta sailing on small boats, but without experience in high seas voyages. Because he could not endure the journey in conditions encountered by *Dunlin* on the east coast of England (seasickness), he discontinued the voyage and decided to return to the yacht at a later date.

It should be noted that:

- it was a mistake to try to pass the Engelschmangat without knowledge of local conditions and state of the tide, and in the given conditions the strait should not have been entered at all;
- it was an omission to allow for the contamination of the fuel filter with water separator to such an extent that it could have led to disruption of the engine operation,
- despite the loss of the yacht, the captain might have survived the accident if he had put on the life jacket correctly.

#### **4.3. Organizational Factors**

The factor that influenced the course of the accident was the fact that the yacht was deprived of an experienced sailor to steer it after leaving the port and going to open sea. This resulted in the lack of a true control of the position and ill-considered choice of the route by the person steering the yacht and the inability to effectively call for help.

#### **4.4. Influence of External Factors, Including the Marine-related Ones on the Accident**

The *Dunlin* accident occurred as a result of strong waves and breakers in the shallow coastal waters. In the morning there was northern wind of 4-5° B, the sea state was 4-5. On the day of the accident in the locality of Hoorn, on the nearby island of Terschelling, average



wind<sup>8</sup> WNW was 7 m/s (4° B), with maximum gusts of 14 m/s (7° B), which occurred between 9:00 and 10:00.

During two days preceding the accident, the southern basin of the North Sea was between high pressure to the west of Scotland and low pressure over the Gulf of Bothnia, which resulted in regular, strong winds from the WNW-NW-NNW direction and resulting high state of the sea on the coast of the West Frisian Islands. At first, the yacht practically sailing with the wind from Scarborough, could not have felt these conditions until it approached the shores of the Netherlands.

The yacht approached the entrance to the strait between the islands of Vlieland and Texel in the middle of the low tide (the tidal range in the port of Vlieland: 1.6 m, indirect tide), encountering a generally opposite current coming out of the Wadden Sea (Waddenzee), which being opposite to the wind, may have additionally affected the height and steepness of waves in the strait and on the approach to it. The main exchange of water masses between the Wadden Sea and the North Sea takes place through the neighboring Marsdiep strait in the south and Vlie strait in the north, but in the firths behind the Eierlandsche Gat/Engelschmangat isthmus, the ebb stream reaches the speed of 2-3 *k* (syzygy).

On the other hand, at that time, the sea was dominated by the current along the coast to the south. The vessel which was then in the region of Eierlandsche Gronden was distinctly being pushed further towards the shoals.

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

The entry of *Dunlin* into the shallows of Eierlandsche Gronden, resulting in the death of the captain and the destruction of the vessel, may have occurred as a result of a navigational error.

It was a mistake to steer the yacht directly to the area of shallows - invisible from the sea - covered by breaking waves, and to plan the route to pass - especially at low tide - from the North Sea to the waters of the Wadden Sea (Waddenzee) through the Engelschmangat. The captain of *Dunlin*, was probably tired of a two-day crossing from Scarborough in strong surge, and wanted to quickly hide behind one of the West Frisian islands so he chose the

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<sup>8</sup> Source: <http://www.wetterzentrale.de>



passage between Vlieland and Texel, seemingly the most convenient due to the current position of the yacht and the wind direction. Since he did not have or did not consider navigational information from sailing directions, including tidal information, he must have relied only on the electronic navigational map, viewed on a small (16 cm) screen, counting that a small draught of his yacht (1 m) would make it easy to cross the strait. Probably, when he realized that he was in the shallows, the captain cleared his sails and started the engine to go back to the sea. Under the pressure of waves, wind and current coming out of the strait, this maneuver proved to be ineffective. It is not unlikely that in a critical moment the engine failed because of the pollution with sediment of the filter in the fuel supply line.

Universally available sailing guides and reports of sailors familiar with this area warn against the attempts to force through the straits at unfavorable tidal and current conditions. For typical routes starting in the ports of the Wadden Sea, there are published calendars of optimum departure times.

The popular sailing almanac Reeds<sup>9</sup> informs that in the Eierlandsche strait between Vlieland and Texel there are dangerous shoals, shallow and unmarked channels used only by local fishermen. The passage should not be attempted without good knowledge of local conditions.

In that region, the seabed system changes frequently as a result of strong currents. Navigation charts, including maps and atlases intended for recreational sailors, are published in new, current versions very often, sometimes even annually.<sup>10</sup>

Moreover, the channels (partially marked) from that strait do not lead directly to any port of refuge, available regardless of the tide state. Recommended routes from the North Sea go through Marsdiep and Vlie. The official Dutch electronic sailing directions HP 1D<sup>11</sup> do not discuss the possibility of passing through Engelschmangat, but only indicate Zeegat van Texel (Marsdiep) and Zeegat van Terschelling (Vlie).

The NGA Sailing Directions (Enroute) *North Sea*<sup>12</sup> do not discuss the possibility of passing through Engelschmangat.

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<sup>9</sup> Reeds Eastern Almanac 2017, s. 105, Section. 2.8: Terschelling to Texel and Den Helder: "... Eierlandsche Gat between Vlieland and Texel, consists of dangerous shoals, shallow and unmarked channels used only by fishermen, and should not to be attempted by strangers."

<sup>10</sup> Hydrografische Dienst - mapa nr 1811: Waddenzee West, 2016; NV Verlag Atlas - NL2: Waddenzee 2017.

<sup>11</sup> HP 1D v 4.8, Royal Netherlands Navy (2017).

<sup>12</sup> NGA Pub. 192 (2017).



A. and W. Bliński (*Żagle* monthly, August 2008) write about currents and “*dangerous, steep waves in inlets between the islands leading to the North Sea*”.

An inexperienced navigator without knowledge of local conditions, steering a vessel of a small draught, with a cursory analysis of popular electronic charts<sup>13</sup>, e.g. available free of charge on the Internet (especially on a very small screen) could get the impression that it was easy to find shelter on the east side of the islands after crossing the strait between Vlieland and Texel. In fact, as it turned out, it was not only difficult, but impossible.

Although the design of the yacht comes from the time before the RCD A-B-C-D classification, one may risk a suggestion that seagoing navigation on a yacht of this type requires careful planning of the voyage due to meteorological conditions.

In the light of the above observations, in the opinion of the Commission, the training system for subsequent sailing stages is of great importance. The captain of the yacht, a freshly qualified yacht helmsman, probably gained sea experience only during educational journeys made during the training course for the license of the yacht helmsman.

According to the obtained information, neither the captain nor the other two participants of the journey were authorized to operate radio equipment in maritime radio-communication. This fact highlights another problem in the field of safety of navigation, i.e. the fact that radio or pyrotechnics were not used, provided, of course, that the ones on board were usable at the time of the accident. The more so as it was another fatal accident that occurred near the sea rescue centers, and in which the victim was unable to signal the need of help.

The yacht was sailing under the Polish flag and was formally a Polish property, but it had not been (yet) registered in Poland<sup>14</sup> and it had British marks. Such state of affairs can hinder the search and rescue operations and may discourage captains from establishing radio communications without having the appropriate license and call sign. Such situations recur for yachts purchased abroad (compare accidents of s/y *Down North* and s/y *Zita*<sup>15</sup>).

## 6. Safety Recommendations

The State Marine Accident Investigation Commission has considered it necessary to send safety recommendations, which are proposals for actions that may contribute to the

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<sup>13</sup> The chart used in the application presented in Fig. 1 is based on official data of the Netherlands Hydrographic Office.

<sup>14</sup> The owner has not submitted the yacht for registration in Poland.

<sup>15</sup> See final reports No WIM15/15 and No WIM49/15 at the SMAIC website.



prevention of similar accidents in the future, to The Polish Yachting Association, to consider the possibility of simplifying the formal procedure for switching to the Polish flag, in some cases, e.g. when buying a yacht abroad, in such a way that owners of yachts purchased abroad could complete all formalities at no extra cost (e.g. travelling expenses of a measurer to Poland or abroad) allowing for navigation (to Poland or elsewhere) in full and correct configuration (flag, name, call sign, MMSI, EPIRB, insurance, etc.).

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## 9. Glossary and Abbreviations

B (Beaufort) – wind speed scale

DSC - Digital Selective Call

GPS - Global Positioning System

IENC - Inland Electronic Navigational Charts

KNMR (Koninklijke Nederlandse Redding Maatschappij) – Dutch Maritime Rescue Association

NM – nautical mile

MMSI - Maritime Mobile Service Identity

MRCC - Maritime Rescue Coordination Center (here: Humber, UK)



MRCK (Morskie Ratownicze Centrum Koordynacyjne) – Maritime Rescue Coordinating  
Centre in Gdynia, Poland

NLHO - Netherlands Hydrographic Office

NNW - north north west wind direction

NW - north west wind direction

PZZ (Polski Związek Żeglarski) – Polish Yachting Association

RCD - Recreational Craft Directive

SAR - Search and Rescue

VHF - UKF – very high frequency radio waves (maritime band)

K (knot) – speed of a vessel

## **10. Information Sources**

Notification of the accident.

Report of the Dutch rescue service KNRM.

SAR report.

Report of the Dutch police Maritieme Politie.

Expert opinion of Mr. Piotr Carlson – the SMAIC expert.

## **11. Composition of the Investigative Team**

The team conducting the examination was composed of:

the Team Leader: Krzysztof Kuropieska – the Secretary of the SMAIC,

the Team Member: Eugeniusz Chodań – the Chairman of the SMAIC.