



STATE COMMISSION ON MARITIME ACCIDENT INVESTIGATION

FINAL REPORT 34/13

Serious marine casualty

M/V NEWA

The immobilization of the main propulsion system of the vessel and grounding
on the Szczecin - Świnoujście fairway on 4 November 2013

December 2014

The examination of a serious marine casualty of *Newa* was conducted under the State Commission on Maritime Accident Investigation Act of 31 August 2012 (The Journal of Law item 1068) 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 accident or incident under the above-mentioned Act is to ascertain its causes and circumstances to prevent future accidents and incidents and improve the state of marine safety.

The State Commission on Maritime Accident Investigation does not determine liability nor apportion blame to persons involved in the marine accident 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 Commission on Maritime Accident Investigation Act).

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1. Facts

On 4th November 2013, on completion of a class repair in the MRS Gryfia in Szczecin, a multipurpose general cargo ship *Newa*, with a pilot on board assisted by a tug boat, unmoored from the wharf at 18:25. The ship headed to the Szczecin - Świnoujście fairway in order to proceed to sea on a voyage to Riga. At the height of the Huta Wharf the tug boat was released and the ship was continuing the journey at a speed of 8 knots.

On the beam of Trzebież when attempting to increase the speed it was noticed that the load of the ME could not be increased over 35 - 40%. In the ship's engine room the alarm "High temperature of the turbine exhaust gas" activated on the ME control panel causing the change of the ME load by reducing the pitch of the propeller (decrease of the deflection of blades of the adjustable propeller).

After passing a pair of buoys no 3 and 4, at approximately 21:55 at a distance of 1 NM from the entrance heads of the Piastowski Channel, the ship's ME stopped. The loss of power caused the necessity of leaving the fairway and stopping the ship in front of the entrance heads to the channel. After falling off to the eastern boundary of the fairway at ca. 22:00 the right anchor was dropped. The ship stopped and set the course north.

At 22:18 the ME was restarted. After consultation with the Świnoujście VTS and technical services of the ship's manager, the captain decided to go to the anchorage located on the east side of the fairway in front of the Fairway Gate (Brama Torowa) no 2 and wait there for the technical service and repair of the defect preventing the increase of the ship's speed.

At 22:51 after heaving up anchor the pilot started to rotate the ship clockwise using the bow thruster to set the ship on a course enabling her to enter the fairway to the anchorage. After several minutes the ship stopped rotating.

At 23:10 the pilot reported to the VTS operator that the ship grounded. The VTS operator recommended him to call the tug boat and go in her assistance to the waiting berth which had been indicated. Once again the right anchor was dropped.

On the next day, November 5, 2013, assisted by the tug boat *Serwal III* the ship refloated. At 5:20 she regained buoyancy and went back to the shipyard in Szczecin assisted by tug boats *Fairplay IV* and *Serval III* in order to determine the cause of the loss of propulsion and to remove possible damage after grounding.

2. General Information

2.1. Ship's Particulars

Vessel's name:	Newa
Flag:	Antigua & Barbuda
Shipowner:	Roland Ship Administration GmbH &Co. KG, Brunsbüttel (Germany)
Company (acc. ISM):	Reederei Erwin Strahlmann, Brunsbüttel
Operator:	R.E.S. Chartering GmbH, Hamburg (Germany)
Classification Society:	GL (Germanischer Lloyd)
Vessel's Type:	multi-purpose general cargo vessel
Call Signal:	V2DN3
IMO Number:	9454826
Gross Tonnage:	4425
Year of Build:	2009
Power:	2970 KM (MAK 9M25)
Width:	14,40 m
Length Overall:	114,40m
Hull Material:	steel
Minimum Crew:	9 men
Type of the VDR recorder:	Rutter VDR 100 G2



Photograph 1: Newa general cargo vessel

2.2. Voyage Particulars

Ports en route:	Szczecin
Port of Destination:	Riga (Latvia)
Type of Navigation:	unlimited
Cargo Information (quantity and type):	no cargo
Manning (number and nationality)	2 Poles, 6 Filipinos, 1 Estonian
Passenger information (number and nationality):	no passengers

2.3. Accident Information

Kind:	serious marine casualty
Date and time of event:	04.11.2013 at 21:55
Geographical area of the event:	Bay of Szczecin
Nature of the water region:	internal waters - fairway
Weather during the event:	wind W 3-4°B, sea state 3, very good visibility, water temp. 12°C, air temp. 15°C
The operational status of the vessel during the event:	under ballast
The effects of the accident to the vessel:	no damage to the vessel
Consequences of the accident to the people:	no one was harmed

2.4. Shore Services and Rescue Action Information

The tug boat Serwal III helped the ship to refloat. While navigating from the place of accident to Szczecin the ship was assisted by the tug boat Fairplay IV.

3. Circumstances of the Accident

On 4th November 2013 in the afternoon the m/v *Newa* after completing the class repair, which had been carried out since 19 August 2013 in the MSR *Gryfia* in Szczecin, started preparations to the sea voyage to Riga. At 18:00 the ME and ship's navigation devices were tested. The draught of the vessel at the bow was 3.20 m and 4.30 m at the stern. At 18:20 the pilot came on board. At the bow the towline was given to the tug boat¹. During the manoeuvres the captain and the pilot were present at the bridge.

At 18:25 *Newa* unmoored from the Odra Nowe Wharf in the MSR *Gryfia* and went to the fairway towards Świnoujście. Within the port, the ship was moving at a speed of 8 knots. The tug boat was released when passing the Huta Wharf.

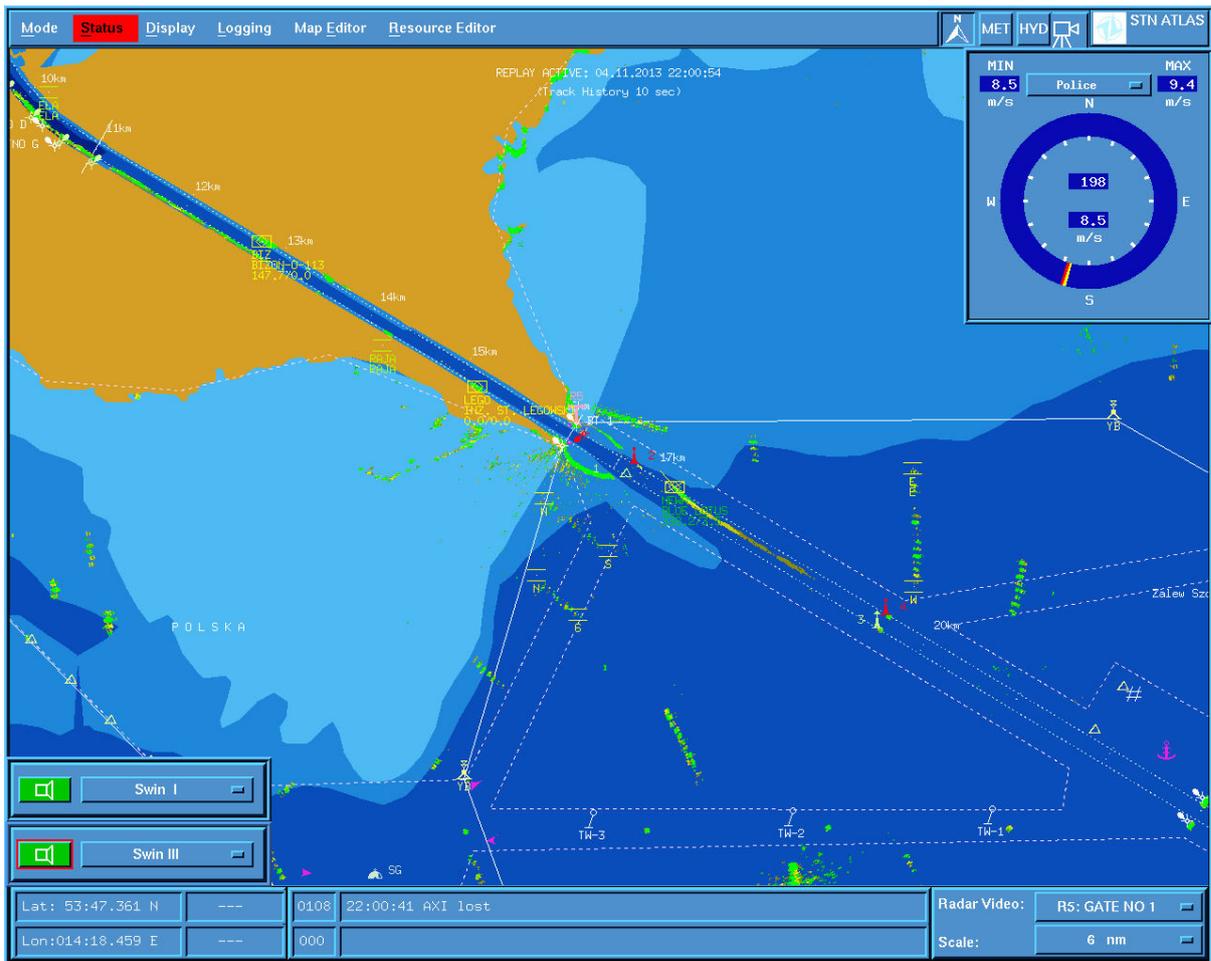
On the beam of *Trzebież* the captain tried to increase the speed. It turned out to be impossible, because it was not possible to increase the setting of the pitch of the vessel's propeller above 35% of the ME load. In the ship's engine room the alarm "High temperature of the turbine exhaust gas" appeared on the ME control panel. Activated alarm caused the reduction of load which resulted in the inability to increase the speed of the vessel.

During the trip the malfunctioning of the ME was consulted with the ship's manager's technical department. Technical inspectors did not find a solution. The captain decided to stop at the roadstead of Świnoujście in order to enable the technical service department to find the cause of the failure. After pilot's informing the VTS operator of the situation, the captain received permission to get to the roadstead of Świnoujście and to drop anchor at the B1 anchorage.

At 21:55, after passing the buoys no 3 and 4, at 19th km of the Szczecin – Świnoujście fairway, about 1 NM from the entrance heads of the protective breakwater to the Piastowski Channel, the ME suddenly stopped. At the ME control panel the following alarm appeared "High concentration of oil mist in the crankcase." The bow thruster could not be turned on but it was possible to steer with the main rudder². The pilot ordered *hard to starboard*. The ship left the fairway.

¹ The assistance of the tug boat in the initial phase of the manoeuvres was required by port regulations in connection with the performance of repair works of the vessel's ME in the yard.

² The vessel had a Becker Flap Rudder. This type of rudder gives a greater control efficiency than a conventional rudder, even at low speed of the vessel. In a typical design of the Becker rudder, the main rudder blade may be deflected up to the 45° to the side and the additional blade can be deflected to the same angle of 45°.



Photograph 2: VTS Image of Szczecin – Świnoujście. Newa at the approach to the 27th km of the fairway is leaving the fairway to drop anchor

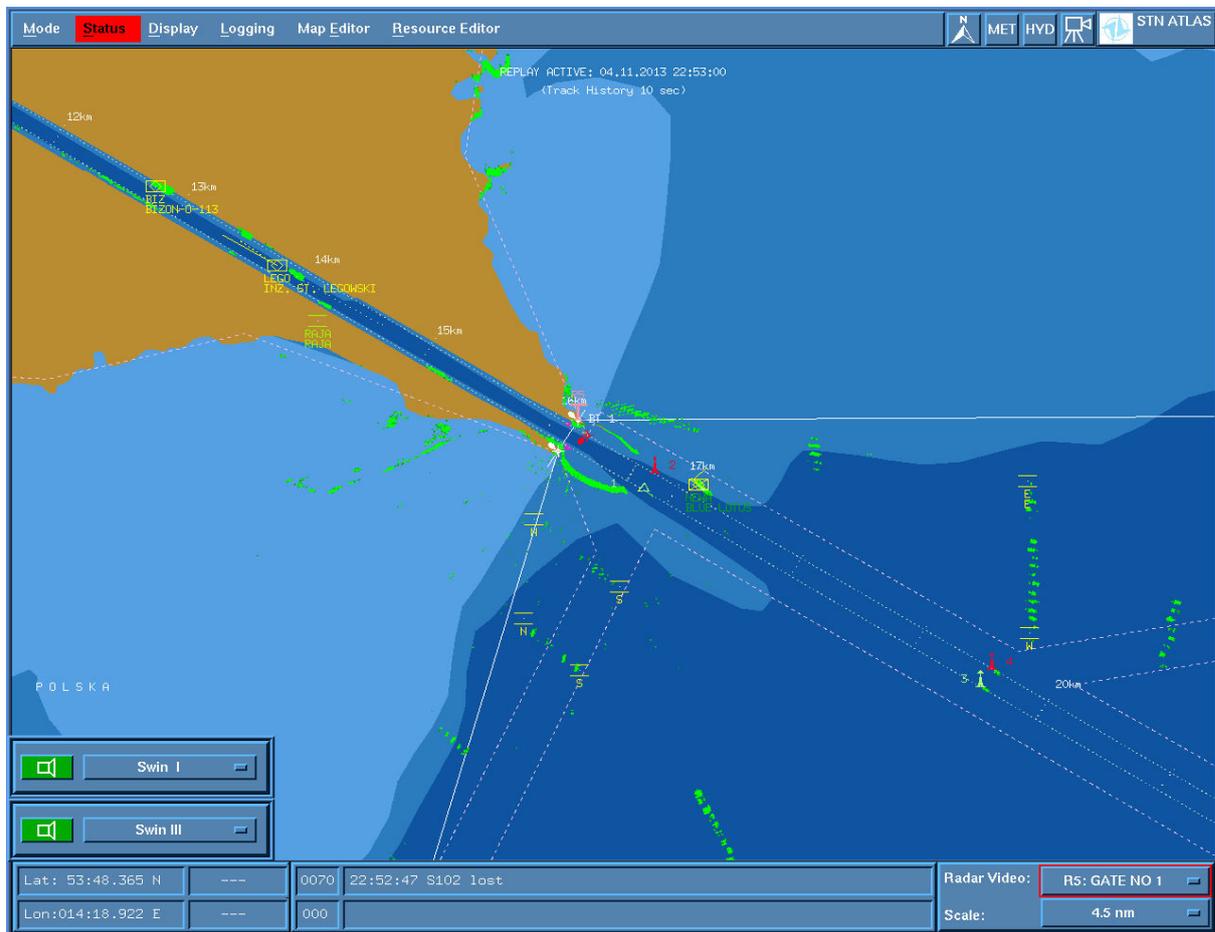
After reaching by inertia the eastern boundary of the fairway, just after 22:00 the pilot ordered to drop the starboard anchor - 1 shackle of the chain into water. After dropping anchor the vessel stopped and set on the course of 355°. The pilot informed the VTS of the situation and the place of anchoring indicating that the vessel did not pose any threat to the movement of other vessels.

At 22:18 the vessel's engine was restarted. The pilot, after consulting the VTS operator informed the captain about the possibility of moving to the anchorage at the east side of the fairway in front of the Fairway Gate no 2 (BT2). The captain accepted this solution. He decided that the vessel might wait in a place designated by the VTS for the technical service which would repair the failure which prevented the vessel to increase speed.

At 22:22 the captain ordered to heave up anchor. Major difficulties in communication between the bridge and the anchor station at the bow, difficulties with heaving up anchor's chain (the windlass kept stopping, the chain kept disarranging in the chain locker) and the fact that more than 2 shackles of chain were dropped into water, and not 1 shackle as the pilot had ordered, caused that the anchor was heaved up as late as at 22:51.

After heaving up anchor the vessel set the course at 316° , almost parallel to the fairway, but in the opposite direction to the anchorage. The pilot decided to start turning the ship to starboard using the bow thruster, without the use of the engine, to set the vessel on the course leading to the fairway. At 23:05 the vessel reached the course of 152° and stopped rotating. The attempt to use the ME was unsuccessful. At 23:10 the pilot informed the VTS operator about grounding of the vessel and inability to move without a tug boat. The VTS operator instructed the captain to call for a tug boat and to go to the designated anchorage in her assistance. To prevent further sliding of the vessel to the shallows, the right anchor was dropped again at 23:20 at the position of position $\phi = 53^\circ 48,117'N$; $\lambda = 014^\circ 21,004'E$.

At the request of the VTS operator the crew checked ballast tanks for damage and for the overboard leakage of oil pollution. The inspection revealed neither damage to the vessel nor the leakage of oil. The ship remained aground until next morning



Photograph 3: Szczecin – Świnoujście VTS Image with marked position of Newa aground

Communication between the representative of the ship's manager, the Harbour Master's office and the representatives of the shipyard resulted in taking the decision to use tug boats to pull the vessel off the shallows and to assist her while going back to the yard in Szczecin.

Two tug boats came at 5:02. At the stern, the vessel took the towline from Serwal III. At 5:13 the anchor was heaved up. After 15 minutes, working with a thruster, the engine and with the help of the tug boat the vessel refloated. Then a bow towline was taken from the tug boat Fairplay IV and at 5:33 the vessel started heading back to Szczecin.

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

The main reason for which the vessel got off the fairway on the way from Szczecin to Świnoujście was the failure of the ME. The vessel, devoid of control over her movements, might have posed a threat to other units moving along the fairway. The pilot together with the captain took the decision to leave the fairway and drop anchor.

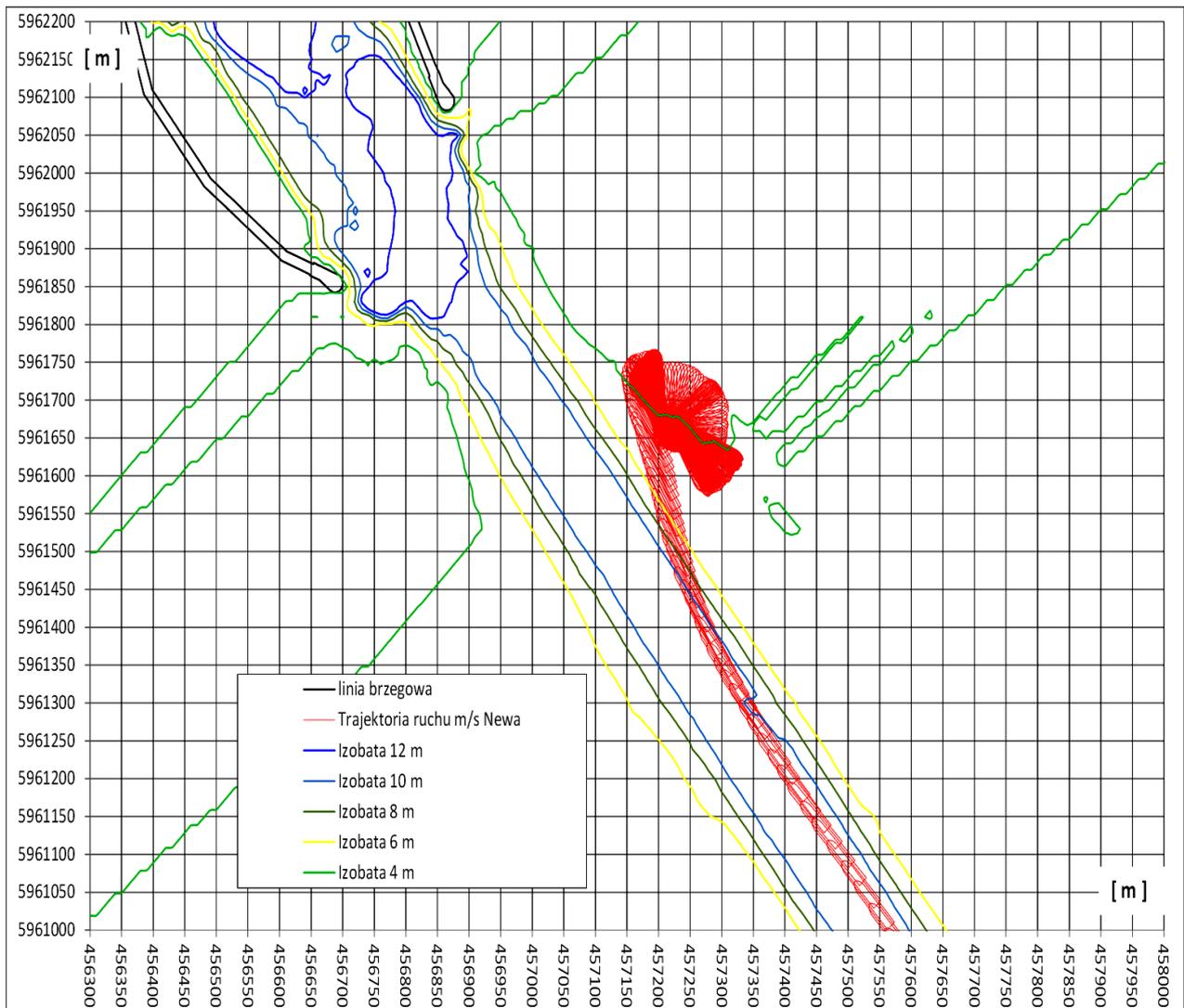
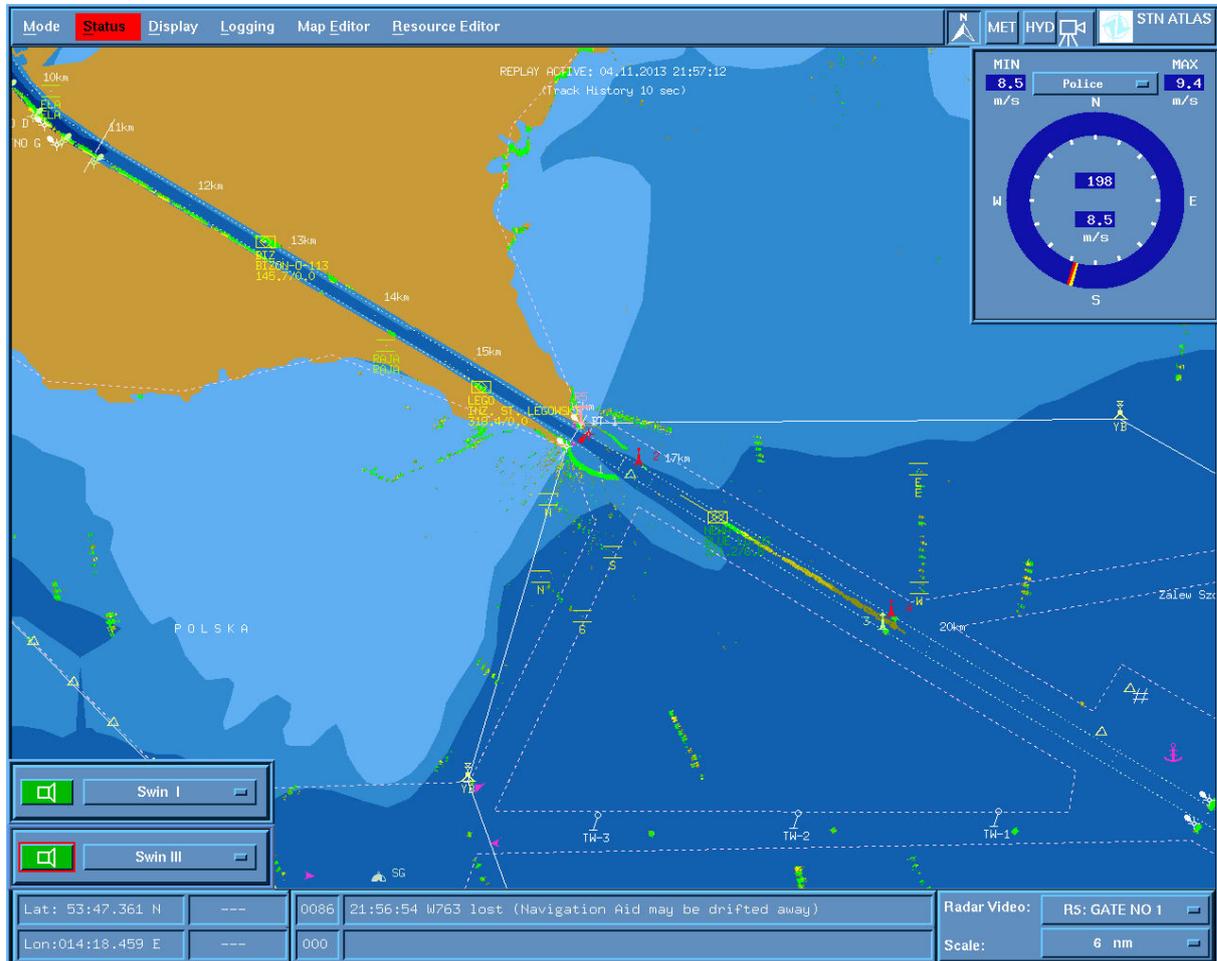


Figure 1: Movement trajectory of Newa marked on the numerical map of the water basin of the Szczecin-Świnoujście fairway until grounding in front of the breakwater in the Piastowski Channel; the area right before the accident, where the vessel was moving with a broken-down ME.

Before passing the pair of buoys no 3 and no 4 which were between the Fairway Gate no 2 and the Piastowski Channel, the vessel was moving in the centre of the fairway along a safe isobath of 10 m with a constant speed of ca. 8 knots.



Photograph 4: Szczecin – Świnoujście VTS image. *Newa* during passage down the fairway between the Fairway Gate no 2 and the Piastowski Channel, after passing by buoys no 3 and no 4

After passing the pair of buoys no 3 and no 4 the vessel began to slow down. The photograph above shows the course of the vessel at 321.2° and the speed at 6.8 knots. The deceleration indicates that the failure of the ME had occurred slightly before and the vessels was moving only by the force of inertia.

Sudden stopping of the vessel’s ME and a consequent loss of manoeuvrability was caused by activation of the alarm “High concentration of oil mist” on the alarm panel of the ME control and security system (Ph. 5 – the list of alarms from the technical manual of the MAK 9 M 25 engine).

This type of alarm may be caused by seizing of one of the bearings in the engine crank-case, rupture of the piston, camshaft failure, failure of the timing gear, malfunction of the turbine or

unsealing of the combustion chamber. Increased concentration of oil mist may lead to explosion in the crankcase and cause danger to life and health of the crew.

no.	function action	Beschreibung description	supp. delay	trigger normal	sensor range signal range	Bemerkungen remarks
1 Shutdowns						
1106	PALL Shutdown	Schmieröldruck letztes Lager lub. oil pressure last bearing		290 kPa	0..600 kPa	
1163	SA Shutdown	Schmieröldruck Getriebe lub. oil pressure gearbox			binary	from gearbox
1253	QAHH Shutdown	Ölnebelkonzentration im Kurbelraum oil mist concentration in crankcase		2 % < 2 %	0.5..25 % binary	
2103	PALL Shutdown	Frischwasserdruck HT vor Motor cooling water pressure HT at engine inlet	20s	h) >250 kPa	0..600 kPa binary	h) 0,6 bar below operation value
9404	SA Shutdown	Motordrehzahl > Überdrehzahl engine speed > overspeed		885 min-1 750 min-1	0..1000 min-1 binary	
2 Load Reductions						
1203	TAHH Load Reduction	Schmieröltemperatur vor Motor lub. oil temp. at engine inlet		75 °C 60 - 65 °C	-40..120 °C binary	
1282	SA Load Reduction	Drucklager temp. Getriebe thrust bearing temp. gearbox			binary	from gearbox
2212	TAHH Load Reduction	Frischwasser temp. HT nach Motor cooling water temp. HT at engine outlet		98 °C 80-90 °C	-40..120 °C binary	

Odstawienie silnika od mgły olejowej w karterze SG

Photograph 5: Extract from the list of the ME alarms on Newa. Alarm 1253 – turning off the ME as a result of exceeding the limit concentration of the oil mist in the crank-case

In the case of Newa it was a false alarm caused by the accumulation of moisture in the crankcase as a result of a very long berthing of the vessel in the repair yard³. Probably water vapor in the crankcase activated the alarm and the security system stopped the operation of the ME which resulted in the loss of propulsion.

The pilot leading the vessel made a correct decision to move the defective vessel from the fairway. This decision entailed danger that the vessel could not be stopped on time and would run aground. However, grounding of the vessel on a muddy bottom, was safer than her contact with the breakwater protecting the Piastowski Channel.

In the opinion of the Commission the vessel had run aground during the first anchoring, i.e. after dropping anchor past 22:00. The vessels grounded because her movement from the fairway was too far (to the east) and the anchor chain was too long.

³ Oil mist detectors are prone to false indications with high moisture content in the crankcase due to long berthing in the repair yard, for example. Manufacturers of oil mist detectors indicate that increased moisture content can cause false alarms (as in the manual of “Visatron”, p. 6.05). For Newa the content of water in the ME oil circulation could not exceed 0.2%.

A strong current and wind pushing the vessel easterly and improper manoeuvres of the pilot (he did not work astern with the engine after turning the vessel perpendicularly to the fairway) caused that the vessel once again run (was pushed) aground at ca. 23:05.

To trace the movement of the vessel's hull from the time of deflecting from the fairway after losing the engine to the time of a second grounding caused by incorrect manoeuvres after heaving up anchor, the recording of the vessel's movement was used on the numerical map in a larger scale.

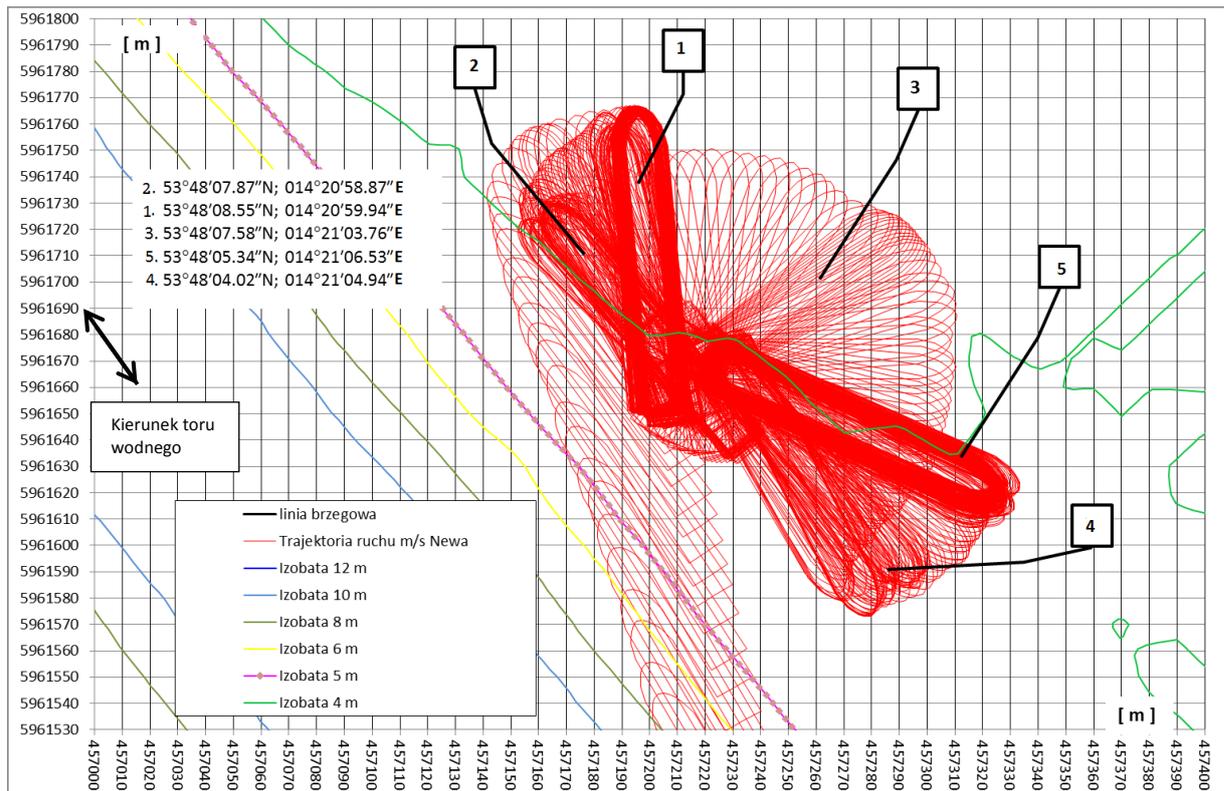


Figure 2: The trajectory of movement of Newa with marked area of performing the manoeuvre of turning after the ME was operational again marked on the numerical map of the water basin

In Figure 2 in the position 1 of the vessel after dropping anchor past 22:00, it is clear that the hull of the vessel was more than half of its length within the isobath of 4 m. The vessel was on the starboard anchor, 2 shackles in water, on the course of 355°, supported in her front part (in front of the superstructure) at the bottom. The draught at the bow of 3.20 m allowed the hull to move outside the isobath of 4 m. Since the aft draught exceeded 4 m, the vessel leaned her stern against the bottom.

It is confirmed by a lateral positioning of the hull against the west wind from the port side and a current flowing eastward at a speed of 2-3 knots. The vessel remained on that course and in the same position until heaving up anchor.

After initiating the heaving up manoeuvre at 22:22, without receiving from the bow information on location of the chain and the work of the windlass⁴, the pilot and the captain wrongly assessed the situation and began to work astern⁵ with the engine and the bow thruster to starboard while the vessel stood still at anchor supported at the bottom.

The starboard anchor with 2 shackles of chain in water running under the hull disabled the vessel's movement to starboard and deeper grounding. When the pilot obtained a much delayed information from the bow position about the windlass having problems with heaving up the chain, he decided to stop the thruster. It gave a positive effect, and enabled a very slow heaving up anchor. The vessel's position at the time of heaving up anchor is indicated by number 2 in Figure 2. Here we can see clearly the positioning of the vessel's profile (outline) parallel to the fairway and her moving astern. After heaving up anchor at 22:51 the vessel refloated.

Side wind facilitated the rotation of the vessel to starboard with the help of the thruster, but at the same time it was pushing the vessel at a depth of less than 4 m. Rotation of the vessel was slightly slow-going (position no 3 on Figure 2) because the hull grounded again on the muddy bottom with the stern which was additionally being pushed deeper to the shallows by a strong eastward current. If in this position (when the ship was perpendicular to the fairway) the vessel worked astern using the available power of the ME (35%), probably she would refloat and safely go with the stern to deeper water and continue to rotate freely with her bow to starboard in the direction of the fairway.

Despite the fact that the stern section of the vessel grounded on the muddy bottom, the rotation of the vessel continued until 23:05, when it reached the course of 152° (position no 4 on Figure 2). In this position, the vessel was most vulnerable to the effects of side wind and current, which pushed her deeper and deeper to the shallows. The attempts to use inefficient engine (35% of the maximum load of the ME) failed. After a few minutes the captain and the pilot gave up attempting to continue to turn the vessel and working forward with the engine. The vessel returned again on the course of 137° (position no 5 in Figure 2) and remained in this position until the tug boats arrived.

The pilot ordered to drop starboard anchor, 1 shackle to water to limit further drifting of the hull aground, taking into regard the information received from the VTS operator about raising water because of the current ingoing to the Bay of Szczecin.

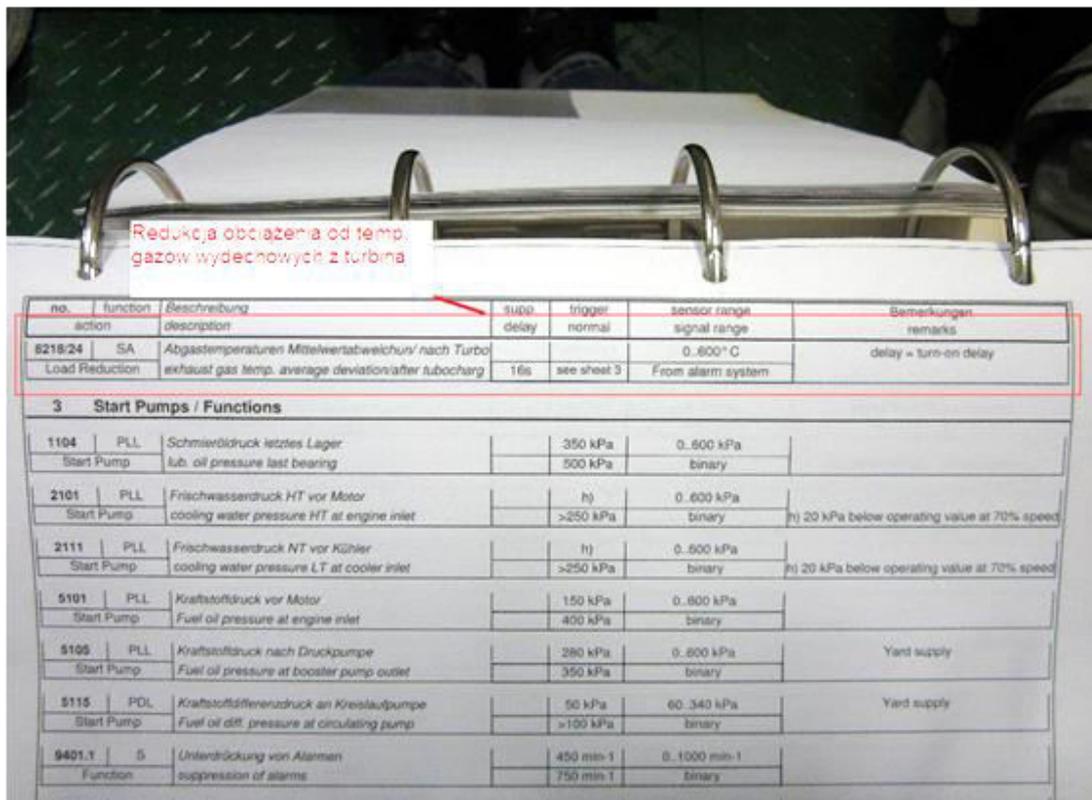
⁴ VDR recording from that time registered a recurrent VHS calls and lack of answers to asked questions.

⁵ Newa had a right-hand adjustable-pitch propeller placed on the shaft rotating to the left.

4.1. Mechanical Factors

Sudden standstill of the ME due to activation of the alarm “High concentration of oil mist in the crankcase,” caused the loss of control of the vessel.

Another factor that indirectly influenced the accident because it limited the manoeuvrability of the vessel, was a failure of the ME causing inability to increase the speed of the vessel. This failure occurred as a result of the alarm “High temperature of the turbine exhaust gas”, according to the setting of the temperature detector in the ME control and security system, i.e. at the temperature exceeding 400°C. The alarm was activating 12 times since the vessel unberthed from MSR Gryfia to her return to the yard⁶ and was associated with exceeding the limit of the temperature of exhaust gas at the outlet of the turbine in the ME control and security system. According to the alarm specification in the ME manual the activated alarm caused the reduction of the ME load (by changing the pitch of the screw propeller, i.e. reducing the deflection of its blades). This alarm activated at every attempt to increase the speed of the vessel when the exhaust gas temperature exceeded the limit value of 400°C and caused the reduction of work-load of the ME to 35%.



Photograph 6: Draft from the list of the ME alarms on Newa. Alarm 8218/24 – reduction of the ME work-load due to exceeding the temperature of the turbine exhaust gas

⁶ Such alarm may be caused by a condition of the injection apparatus of the engine, condition of the turbine, quality of fuel or condition of the air cooler.

Both failures were not related to each other though both resulted from omissions during the shipyard repair. Limitation of the pitch of the propeller did not result in immobilization of the vessel, but greatly limited its manoeuvrability. The vessel could not manoeuvre at full capacity during the first attempt to leave the anchor, and then the shallows.

4.2. Human Factors (fault and neglect)

During the yard repair of *Newa* the principles of good practice relating to ongoing renovation have not been maintained. The accumulation of moisture in the crankcase during long berthing and repair work can lead to condensation of water from the moisture in the air in the crank space of the ME. The vessel's crew had failed to perform the analysis of the physical and chemical properties of the circulating oil before the vessel left the shipyard, in particular, had not checked the water content in the oil.

Failure to set a correct limit of the turbine exhaust gas temperature of the ME in the system of control and motor protection alarm panel, after replacing a damaged exhaust gas temperature sensor for the turbine, caused a decline in control of the vessel. After replacing in the yard a detector of temperature of the ME turbine exhaust gas, a correct value of the temperature for variable conditions of ME work-load that occur at manoeuvrability speed of the vessel had not been changed.

Neither the pilot nor the captain realized that after dropping anchor, at the time of emergency anchoring after the ME had stopped, the hull of the vessel grounded by the stern. Chief officer mistakenly carried out the instructions of the captain to drop anchor. He dropped more than 2, instead of 1 shackle of chain. This had a significant impact on the position in which the vessel stopped⁷. People at the bridge at the time of dropping anchor (pilot, captain, the third mate) and at the anchor station failed to control the position of the vessel. They were not alarmed by the fact that after dropping anchor the vessel did not assume the position she should have – with her bow into the wind and current.

When heaving up anchor, initially the captain and the pilot did not receive any information, from the officer at the bow as to the location of anchor and length of the released anchor chain, later the information was unclear. As a result of the lack of communication between the bridge and the bow, the assessment of the situation related to the position and movement of the ship was

⁷ These almost 30 m of released chain which constitute over one fourth of the overall length of the vessel could influence the fact that the stern would stop before the shallow water and the vessel would maintain buoyancy at anchor. It is important to note a negative fact of non-informing the bridge by the chief officer about giving longer chain than requested.

incorrect. As a result, the commands of the pilot and actions of the captain were random and chaotic. Bad assessment of the vessel's position and direction of her movement prevented proper analysis of the situation in order to achieve an optimum manoeuvre. These actions and omissions caused that the hull re-grounded to such an extent that it was impossible for her to refloat unaided and get back to the fairway.

4.3. Organizational Factors

The Commission concluded that the technical supervision over the vessel on the part of the ship's manager and the crew at the time of repair in the yard was not sufficient. During more than two and a half month stay at the shipyard there successively embarked several chief engineers. The one before last had been on board only for 10 days. The chief engineer who was on board at the time of the accident had been working there for only five days. His predecessor transferred his responsibilities within just one day. When transferring the duties the engineers failed to transfer the access code to the alarm limits changing panel.

After completing the repair works and when leaving the yard by the vessel there was nobody to represent the ship's manager's technical control who would have a full understanding of the extent and nature of works performed on the ME. Technical superintendent, who was appointed to permanent supervision of mechanical devices on the vessel, was busy with supervising the renovation of a second vessel in another repair yard.

4.4. Influence of External Factors on the Occurrence of the Accident

Complex movement of water in the Bay of Szczecin and hydro-technical structures affecting it create a constant transverse eastward current in relation to the fairway in the area of the entrance heads of the protective breakwater. Increase of the speed of that current or its temporary slowdown mainly depends on the direction of the wind. West winds blowing for a longer time cause an increase in the speed of the current to more than 3 knots. Such conditions prevailed on the day of Nawa accident but the pilot rated the speed of the current from 2 or 3 knots. In addition, the wind of 10 - 12 m/sec. was pushing the hull of the vessel in ballast from the west.

Both factors had an impact on the behavior of the ship after stopping the ME, as well as during anchoring and turning of the vessel after restarting the engine and heaving up anchor.

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

Each vessel undergoing repair in the shipyard requires supervision by the crew and technical services of the ship's manager. The practice commonly used by the ship's managers is to employ during repair captains and chief engineers who had already been on the vessel and have knowledge about the type of performed works. If for any reason they cannot stay on board the ship under renovation, the responsibility for ensuring the continuity of supervision of the work being performed falls on the technical services of the ship's manager.

Newa left the shipyard with a chief engineer who had been on board for only a few days. The engineer took the vessel after a brief and cursory transfer of responsibilities from his predecessor. According to the Commission the time could have been too short for the engineer to fully control the operation of mechanisms and marine equipment after the repair.

In this situation, the technical inspector supervising the repairs on behalf of the ship's manager should assist the chief engineer in all activities related to the preparation for the first voyage after a long renovation in the shipyard. Also he should have taken the first short journey on board (e.g. Szczecin - Świnoujście), bearing in mind that the ship's engineer might need help in case of any defects associated with carried out repairs⁸. There was no such a technical inspector of the ship's manager⁹ on Newa in her first voyage after the repair.

Sudden stopping of the ME when the vessel was sailing towards the entrance heads of the protective breakwater of the Piastowski Channel created a difficult situation for navigation. The pilot adequately used the inertia of the ship and operational main rudder to get off the fairway, drop anchor and prevent impediments to the navigation of other vessels passing by.

However, according to the Commission actions undertaken by the pilot and the crew after dropping anchor were not correct. Also, the Commission objects to the organization of work at the bridge at that time. In view of the fact that there was no communication between the bridge and the bow (with a chief officer, whose task was to inform about the position of the chain and the direction of heaving up anchor) long after the command to heave up anchor, the captain should not allow to do any maneuvers with the thruster and the engine until proper contact was established.

The pilot commanded and the captain confirmed to run the bow thruster to starboard and to work astern with the engine which was caused by their unawareness of the vessel's position and

⁸ Another solution used after shipyard repairs is to carry out sea trials after leaving the port (shipyard) to avoid unexpected break-downs and losses they might entail.

⁹ According to the procedures indicated in the Security Management Book (VA-050 point 3.6) the technical inspector of the ship's operator should be present on board after completing the repairs in order to assess an accept conducted works.

the fact that the vessel was at anchor and aground. Also, both of them agreed that the vessel was moving astern and slowly turning to starboard whereas she stood still. It means that there was nobody at the bridge to control the vessel's position.

After heaving up anchor the pilot misjudged the vessel's position and accepted that there was a sufficient, safe area on the eastern side of the vessel to turn to starboard. The decision to turn the vessel by almost 180° in that situation only with a bow thruster in order to go to the anchorage at BT2, without moving the vessel back in the direction of the fairway (deeper water) means that neither the captain nor the pilot knew the exact position of the vessel, they did not control the depth and thought that the vessel was on deeper water.

After another grounding of the vessel, the captain ordered (at the request of the VTS) to check for any leakage of oil around the vessel, but he did not order the crew to take soundings around the hull to determine the vessel's position (part of the hull) aground and make a plan, which would facilitate the refloating of the vessel by tug boats or undertake an action to refloat unaided¹⁰. Such action was contrary to good seamanship.

6. Safety Recommendations

The Commission considered reasonable submitting to the Newa Company, Reederei Erwin Strahlmann the following safety recommendations forming the proposal of actions which may contribute to prevention of similar accidents in the future.

The State Commission on Maritime Accident Investigation has recommended to:

- 1) develop and include in the ship's manager's Safety Management Manual the procedures to ensure constant supervision on the part of the technical department of the ship's manager over the repairs in the shipyard, anticipating, inter alia, situations similar to the case of Newa, when during the renovation several chief engineers have successively been embarked;
- 2) make systematical controls by technical inspectors of the ship's manager the conformity of set values in the ME security systems with the technical and motion control documentation; changes of settings of the ME parameters by the crew should be agreed with the technical inspector responsible for the vessel and documented by entries in the engineer's log book, and the information on the changes should be recorded in the duty transfer form (CL-012) filled in during the exchange of chief engineers;

¹⁰ The vessel was empty in ballast which means that the crew could try to use ballast water to discharge the vessel to refloat unaided. This however required a soundings plan, change in the vessel's draught and a refloating plan (calculation of weight to be taken off the vessel).

- 3) inform the chief engineer regularly of the need to comply with the annual schedule of testing physical and chemical properties of the ME circulating oil, according to the Li-030 procedure contained in the Safety Management Manual, particularly when the vessel is in the yard undergoing ME repair;
- 4) include in the Safety Management Manual the procedures concerning the conduct of the crew when the vessel runs aground, including the obligation to check depths around the vessel, check the state of the bottom ballast and fuel tanks, bilges in the holds, overboard oil spills etc.

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9. Glossary and Abbreviations

B – Beaufort scale

MAK – Maschinenbau Kiel (Caterpillar Group – the producer of the ME)

MSR Gryfia – Marine Repair Yard „Gryfia”

VTS – Vessel Traffic Service

W – West (wind direction)

10. Information Sources

Notification about the accident

Materials from hearing of witnesses

Materials of the ME producer

Ship’s manager document concerning the security management

Captain’s Harbour Office of Szczecin

Data from the vessel’s VDR

Expert opinion of Captain Wojciech Ślęczka, D. Eng., Professor of the Maritime Academy of Szczecin

11. Composition of the Accident Investigative Team

The team conducting the examination was composed of:

the Team Leader: Krzysztof Kuropieska – a member of the State Commission on Maritime Accident Investigation

the Team Member: Marek Szymankiewicz – a member of the State Commission on Maritime Accident Investigation

the Team Member: Wojciech Wójcik – an expert of the State Commission on Maritime Accident Investigation, a Senior Inspector of the Technical Service of Wärtsilä, Poland.