



Bundesstelle für Seeunfalluntersuchung
Federal Bureau of Maritime Casualty Investigation
Federal Higher Authority subordinated to the Ministry of Transport,
Building and Urban Development

Summary

Investigation Report 286/10

Serious Marine Casualty

**Collision between the CMV NAVI BALTIC and the
sailing vessel J.R. TOLKIEN on the
Kiel Canal at
Kilometre 90.5 on 12 July 2010**

Summary

Investigation Report 345/10

Serious Marine Casualty

**Grounding and salvage of the sailing vessel
ALBERT JOHANNES in the port of Wismar
on 18 August 2010**

Summary

Investigation Report 355/10

Marine Casualty

**Collision between the sailing vessel
SKYLGE and the motor yacht SPUTNIK 2
in the port of Stralsund
on 22 August 2010**

1 March 2011

The investigation was conducted in conformity with the law to improve safety of shipping by investigating marine casualties and other incidents (Maritime Safety Investigation Law - SUG) of 16 June 2002.

According to said act, the sole objective of this investigation is to prevent future accidents and malfunctions. This investigation does not serve to ascertain fault, liability or claims.

This report should not be used in court proceedings or proceedings of the Maritime Board. Reference is made to art. 19 para. 4 SUG.

The German text shall prevail in the interpretation of this Investigation Report.

Issued by:
Bundesstelle für Seeunfalluntersuchung - BSU
(Federal Bureau of Maritime Casualty Investigation)
Bernhard-Nocht-Str. 78
20359 Hamburg
Germany

Director: Jörg Kaufmann
Phone: +49 40 31908300
posteingang-bsu@bsh.de

Fax: +49 40 31908340
www.bsu-bund.de

Table of Contents

1	SUMMARY OF THE MARINE CASUALTIES.....	6
	FIRST MARINE CASUALTY:	7
	COLLISION BETWEEN THE CMV NAVI BALTIC AND THE SAILING VESSEL J.R. TOLKIEN ON THE KIEL CANAL AT KILOMETRE 90.5	7
2	SHIP PARTICULARS.....	7
2.1	Photo of the CMV NAVI BALTIC	7
2.2	Vessel particulars	7
2.3	Voyage particulars.....	8
2.4	Photo of the J.R. TOLKIEN	9
2.5	Vessel particulars	9
2.6	Voyage particulars.....	10
2.7	Marine casualty information.....	11
2.8	Shore authority involvement and emergency response.....	12
3	COURSE OF THE ACCIDENT AND INVESTIGATION	13
3.1	Course of the accident	13
3.2	Investigation	13
3.2.1	AIS data.....	13
3.2.2	Recordings of the electronic chart	17
3.2.3	Photos of the damage	17
3.3	Investigation of the J.R. TOLKIEN.....	19
3.3.1	Vessel data.....	19
3.3.2	Draught of vessel	20
3.3.3	Operating mode of vessel.....	21
4	ANALYSIS	22
4.1	Course of the accident	22
4.2	Admissibility of the encounter and draught determination	22
4.3	Operating mode.....	23
	SECOND MARINE CASUALTY:	24
	GROUNDING AND SALVAGE OF THE SAILING VESSEL ALBERT JOHANNES IN THE PORT OF WISMAR ON 18 AUGUST 2010	24
5	SHIP PARTICULARS.....	24
5.1	Photo of the ALBERT JOHANNES.....	24
5.2	Vessel particulars	24
5.3	Voyage particulars.....	25
5.4	Marine casualty information.....	25
5.5	Shore authority involvement and emergency response.....	26

6	COURSE OF THE ACCIDENT AND INVESTIGATION	27
6.1	Operating mode of vessel.....	27
7	ANALYSIS	28
	THIRD MARINE CASUALTY:.....	29
	COLLISION BETWEEN THE SAILING VESSEL SKYLGE AND THE MOTOR YACHT SPUTNIK 2 IN THE PORT OF STRALSUND ON 22 AUGUST 2010 .	29
8	SHIP PARTICULARS.....	29
8.1	Photo of the SKYLGE.....	29
8.2	Vessel particulars	29
8.3	Voyage particulars.....	30
8.4	Photo of the MY SPUTNIK 2	30
8.5	Vessel particulars	30
8.6	Marine casualty information.....	31
8.7	Shore authority involvement and emergency response.....	32
9	COURSE OF THE ACCIDENT AND INVESTIGATION	33
9.1	Course of the accident	33
9.2	Operating mode of vessel.....	34
10	ANALYSIS	34
11	SUMMARY ANALYSIS OF ALL THREE MARINE CASUALTIES.....	36
11.1	Difficulties in the investigation	36
11.2	Approval	36
11.3	Passenger Ship Safety Certificate.....	37
11.4	Special Purpose Ship Safety Certificate.....	37
11.5	Minimum Safe Manning Document	39
11.6	Certificate Of Seaworthiness for the Trading Area 16	40
11.7	Ship Safety Construction and Equipment Certificate.....	40
12	CONCLUSIONS.....	42
13	SOURCES	44
14	APPENDICES.....	45
14.1	Passenger Ship Safety Certificate.....	45
14.2	Special Purpose Ship Safety Certificate.....	47
14.3	Minimum Safe Manning Document	48
14.4	Certificate of Seaworthiness.....	53

Table of Figures

Figure 1: Photo of the CMV NAVI BALTIC	7
Figure 2: Photo of the J.R. TOLKIEN	9
Figure 3: Kiel Canal Chart	11
Figure 4: AIS data recording.....	16
Figure 5: Electronic chart of the CMV NAVI BALTIC	17
Figure 6: Damage to the J.R. TOLKIEN	17
Figure 7: Damage to the CMV NAVI BALTIC	18
Figure 8: Sister vessel, the tug OLDENDORF	19
Figure 9: Construction plan from on board	20
Figure 10: Photo of the ALBERT JOHANNES.....	24
Figure 11: Chart of port of Wismar	26
Figure 12: Photo of the SKYLGE.....	29
Figure 13: Chart of port of Stralsund	31
Figure 14: Sketch of the accident by the owner of the MY SPUTNIK 2	33
Figure 15: Kiel Week Parade 2009.....	35
Figure 16: Inflatable boat of the J.R. TOLKIEN	39
Figure 17: Departure Parade, Kiel 2010	42

With regard to the three marine casualties discussed below, during the investigation the BSU recognised the same thematic issue: licensing and operation of these vessels. Therefore, these cases have been summarised and published in one report.

1 Summary of the marine casualties

First marine casualty, Ref.: 286/10 Collision between the CMV NAVI BALTIC and the sailing vessel J.R. TOLKIEN on the Kiel Canal at Kilometre 90.5

At about 1610 on 12 July 2010¹, a collision occurred on the Kiel Canal at Kilometre 90.5 between the eastbound Cypriot container motor vessel NAVI BALTIC and the westbound Dutch two-mast gaff top schooner J.R. TOLKIEN. In the process, the jib boom of the J.R. TOLKIEN struck the port side of the NAVI BALTIC and broke off. Injuries and pollution were not reported.

Second marine casualty, Ref.: 345/10 Grounding and salvage of the sailing vessel ALBERT JOHANNES in the port of Wismar

At about 1710 on 18 August 2010, the Dutch sailing vessel ALBERT JOHANNES ran aground and became stuck about 100 metres outside the fairway in the port of Wismar while the sails were being taking down. The vessel was neither able to free herself through her own salvage attempts nor with towing attempts by a German traditional vessel and was hauled free only on the next day at around 1430 by the tug FAIRPLAY VII. Injuries and pollution were not reported.

Third marine casualty, Ref.: 355/10 Collision between the sailing vessel SKYLGE and the motor yacht SPUTNIK 2 in the port of Stralsund

While casting off at about 1910 on 22 August 2010, the Dutch sailing vessel SKYLGE collided with the motor yacht SPUTNIK 2, which was moored longside in the port of Stralsund. In the process, the aft of the motor yacht was heavily damaged on the gelcoat and rubbing strakes; the SKYLGE only had paint abrasions amidships on the starboard side. Injuries and pollution were not reported.

¹ Unless stated otherwise, all times shown in this report are local = CEST

First marine casualty:

Collision between the CMV NAVI BALTIC and the sailing vessel J.R. TOLKIEN on the Kiel Canal at Kilometre 90.5 on 12 July 2010

2 SHIP PARTICULARS

2.1 Photo of the CMV NAVI BALTIC



Figure 1: Photo of the CMV NAVI BALTIC

2.2 Vessel particulars

Name of vessel:	NAVI BALTIC
Type of vessel:	Container vessel
Nationality/flag:	Cyprus
Port of registry:	Limassol
IMO number:	9386718
Call sign:	5BTT2
Owner:	Navi Baltic Shipping Ltd.
Year built:	2009
Shipyard/yard number:	J.J. Sietas KG/Hamburg/No. 1263
Classification society:	Germanischer Lloyd
Length overall:	168.11 m
Breadth overall:	26.80 m
Gross tonnage:	15,739
Deadweight:	17,894 t

Draught (max.):	9.61 m
Engine rating:	11,200 kW
Main engine:	MAN B&W 8 L 58/64
(Service) Speed:	19.3 kts
Hull material:	Steel
Hull design:	Double bottom, 'Open Top'
Minimum safe manning:	12

2.3 Voyage particulars

Port of departure:	Bremerhaven
Port of call:	Riga via the Kiel Canal
Type of voyage:	Merchant shipping/international
Cargo information:	Container
Draught at time of accident:	8.50 m
Manning:	12
Pilot on board:	Yes, 1
Canal helmsman:	Yes, 2
Number of passengers:	3

2.4 Photo of the J.R. TOLKIEN



Figure 2: Photo of the J.R. TOLKIEN

2.5 Vessel particulars

Name of vessel:	J.R. TOLKIEN
Type of vessel:	Sailing vessel/passenger ship/ special purpose ship
Nationality/flag:	Netherlands
Port of registry:	Amsterdam
IMO number:	7017064
Call sign:	PFRB
Owner:	Van der Rest Sail Charter, Hamburg
Year built:	1964, rebuild in 1998
Shipyard/yard number:	Edgar-André Shipyard, Magdeburg, former GDR
Classification society:	None according to the IACS ² , RH Register Holland ³
Length overall:	41.70 m
Breadth overall:	7.80 m
Gross tonnage:	139
Draught (max.):	2.67 m (freeboard draught amidships)
Engine rating:	353 kW
Main engine:	Daewoo
(Service) Speed:	8 kts
Hull material:	Steel
Minimum safe manning:	4

² IACS = International Association of Classification Societies Ltd

³ RH = National class, not recognised under Regulation (EC) 391/2009

2.6 Voyage particulars

Port of departure:	Kiel
Port of call:	Hamburg via the Kiel Canal
Type of voyage:	Merchant shipping/national/international
Cargo information:	None
Draught at time of accident:	Could not be sufficiently determined ⁴
Manning:	4
Pilot on board:	No
Canal helmsman:	No
Number of passengers:	None

⁴ See sub-para. 3.3.2

2.7 Marine casualty information

Type of marine casualty:	Serious marine casualty, collision
Date/time:	12 July 2010/1608
Location:	Kiel Canal, Kilometre 90.5
Latitude/Longitude:	ϕ 54°21.6'N λ 010°01.8'E
Ship operation and voyage segment:	Harbour mode
Place on board:	Damage to the forecastle and port side of the J.R. TOLKIEN
Human factors:	Yes, human error

Consequences (for people, ship, cargo, environment, other):
 No injuries, no pollutants escaped, damage to the J.R. TOLKIEN, paint abrasion on the NAVI BALTIC.

Excerpt from the Kiel Canal and Eider Chart, BSH No. 3009, Sheet 4

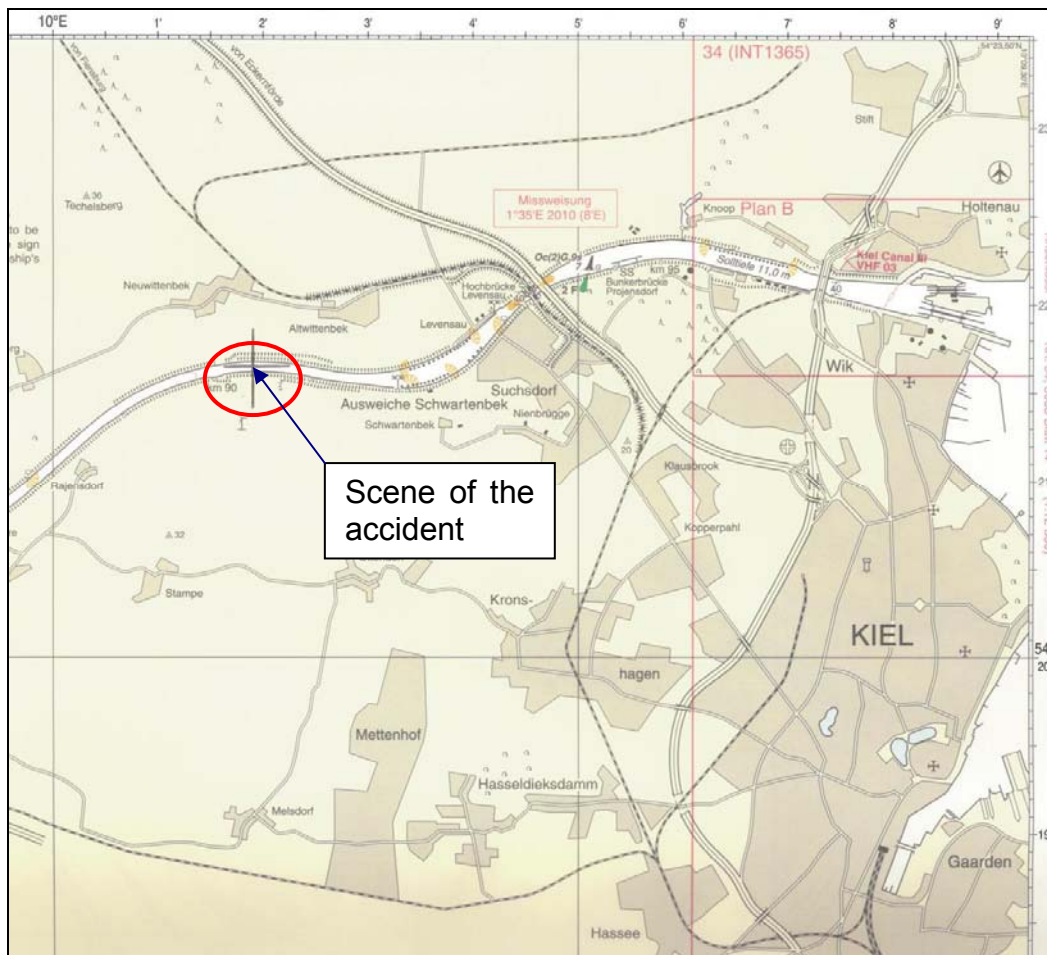


Figure 3: Kiel Canal Chart

2.8 Shore authority involvement and emergency response

Agencies involved:	Waterway police (WSP), Ship Safety Division (BG Verkehr)
Resources used:	Crew
Actions taken:	Safeguards for the damaged J.R. TOLKIEN
Results achieved:	NAVI BALTIC proceeded on her voyage, J.R. TOLKIEN proceeded to the shipyard

3 COURSE OF THE ACCIDENT AND INVESTIGATION

3.1 Course of the accident

Based on the testimony of the crew members and recordings, the course of the accident was as follows:

On 12 July 2010, the CMV NAVI BALTIC was proceeding on the eastern stretch of the Kiel Canal from Rüterbergen towards the locks at Kiel-Holtenau. Due to her length, beam and draught, the CMV NAVI BALTIC was classified to Traffic Group 5 and in possession of a temporary permit, valid until 20 May 2011, to operate up to a maximum draught of 9.50 m on the Kiel Canal issued by the Kiel-Holtenau Waterways and Shipping Office. At the time of the accident, the bridge was manned by a canal pilot, canal helmsman, officer on watch and rating on watch.

Coming from the direction of Kiel, the J.R. TOLKIEN was proceeding on the Kiel Canal as a Traffic Group 1 vessel. The J.R. TOLKIEN was manned by four crew members. At the time of the accident, the ordinary seaman had the role of helmsman and steered the vessel using a joystick from the roof of the wheelhouse while the mate stood on the main deck next to the wheelhouse. The master in charge and the fourth person were below deck.

The vessels encountered one another between Canal Kilometres 90 and 91. According to witness statements, the J.R. TOLKIEN proceeded on the far edge of the canal. Immediately before the encounter, the J.R. TOLKIEN moved away from the northern canal embankment and turned towards the CMV NAVI BALTIC. The J.R. TOLKIEN struck the port side of the bow of the CMV NAVI BALTIC with her jib boom, which protruded beyond the stem, and slid along the hull.

Both vessels were able to proceed without any restrictions after the accident.

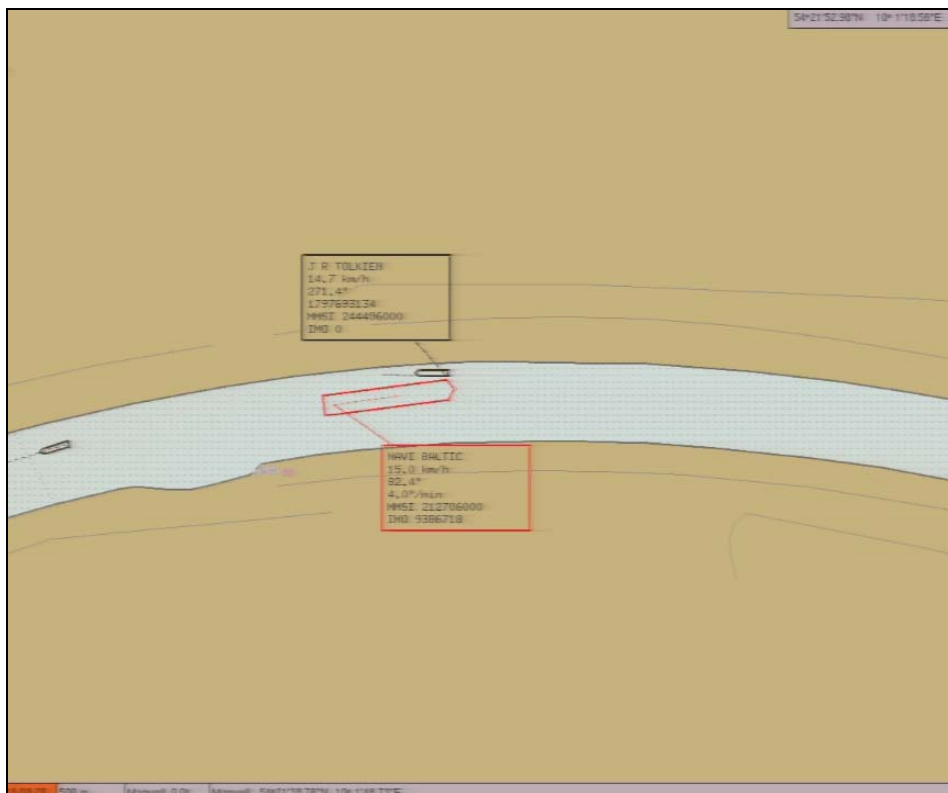
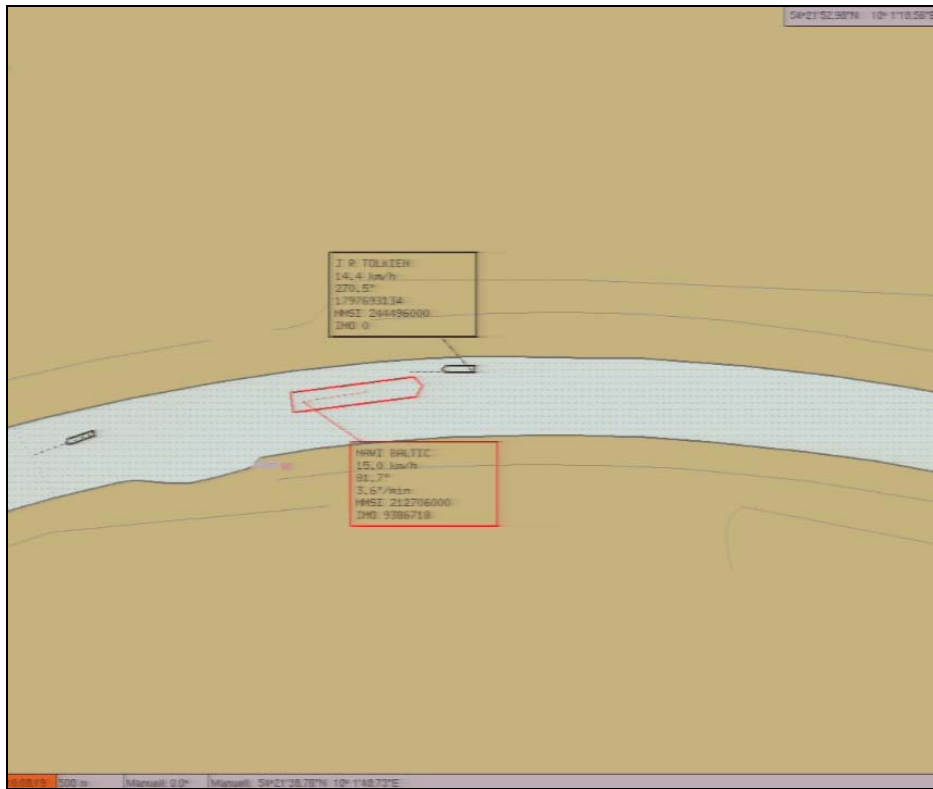
3.2 Investigation

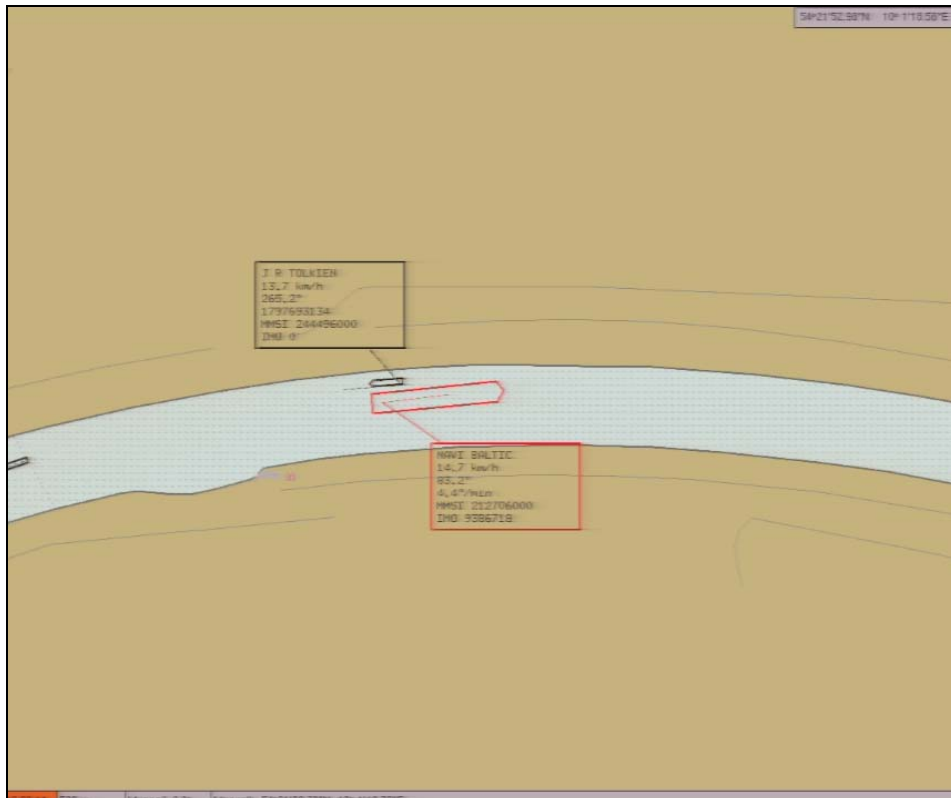
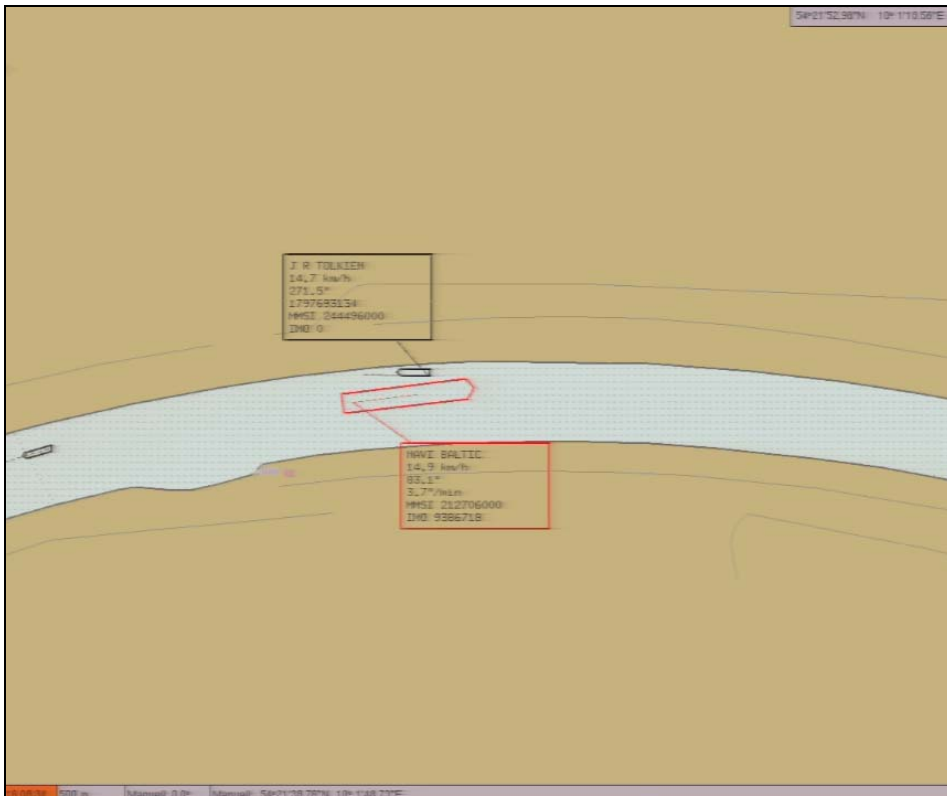
Technical malfunctions were not found on either vessel, meaning human misjudgement or failings required consideration.

3.2.1 AIS data

AIS data and VHF recordings as well as photos of the damage to the vessels were available for the investigation. The J.R. TOLKIEN has a fixed AIS system installed, which is approved for sea-going vessels.

According to the recorded AIS data, a collision did not take place or occurred only at the aft section of the CMV NAVI BALTIC (see last image). Therefore, as has been the case in other marine casualties on the Kiel Canal investigated by the BSU, the AIS recordings are only evaluable to a certain degree.





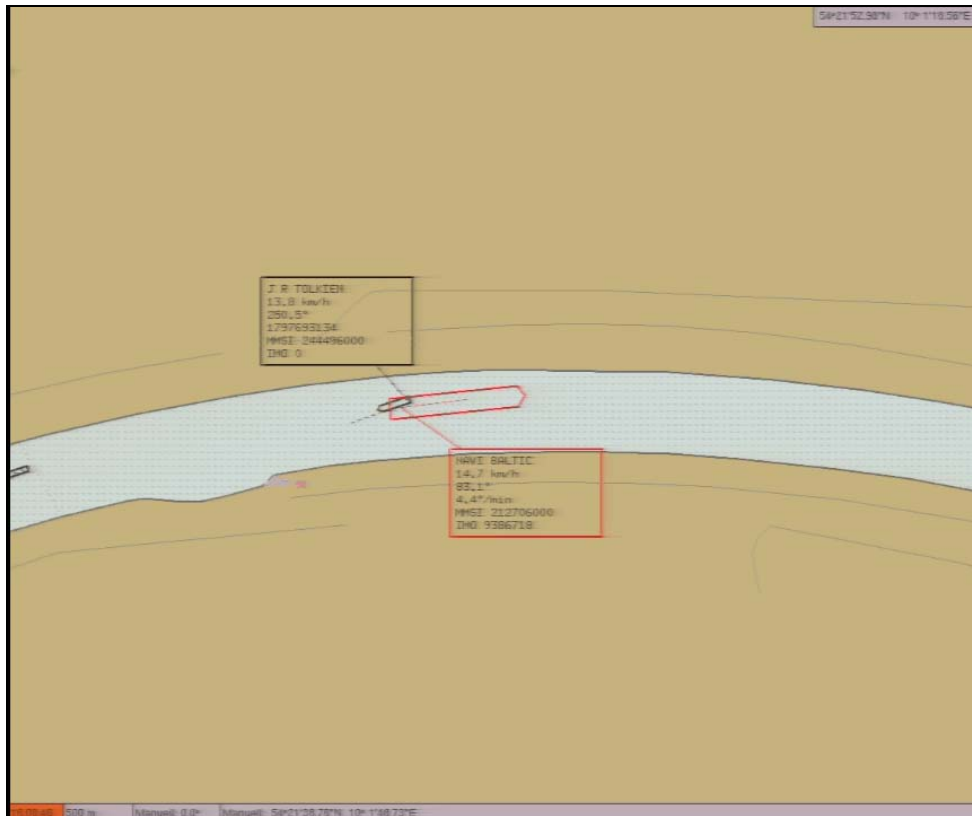


Figure 4: AIS data recording

3.2.2 Recordings of the electronic chart

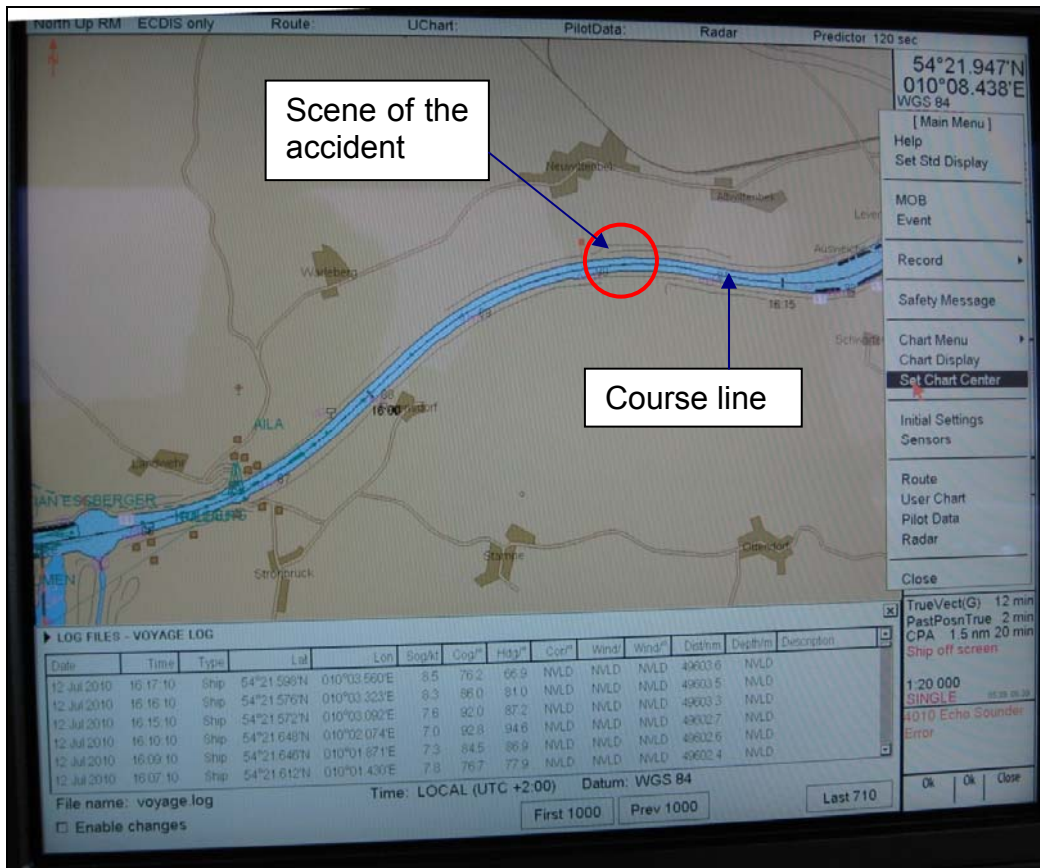


Figure 5: Electronic chart of the CMV NAVI BALTIC

According to the recorded course line above, the CMV NAVI BALTIC proceeded along the middle of the canal trough. Recordings of the electronic chart on board the J.R. TOLKIEN are not on hand.

3.2.3 Photos of the damage



Figure 6: Damage to the J.R. TOLKIEN

The J.R. TOLKIEN was surveyed by the WSP (waterway police) and the Ship Safety Division in the Upper Eider port and the damage recorded. The survey revealed that the wooden jib boom was completely broken off, the bowsprit was bent and the bulwark and frames were buckled at several points on the port side and heavily compressed.

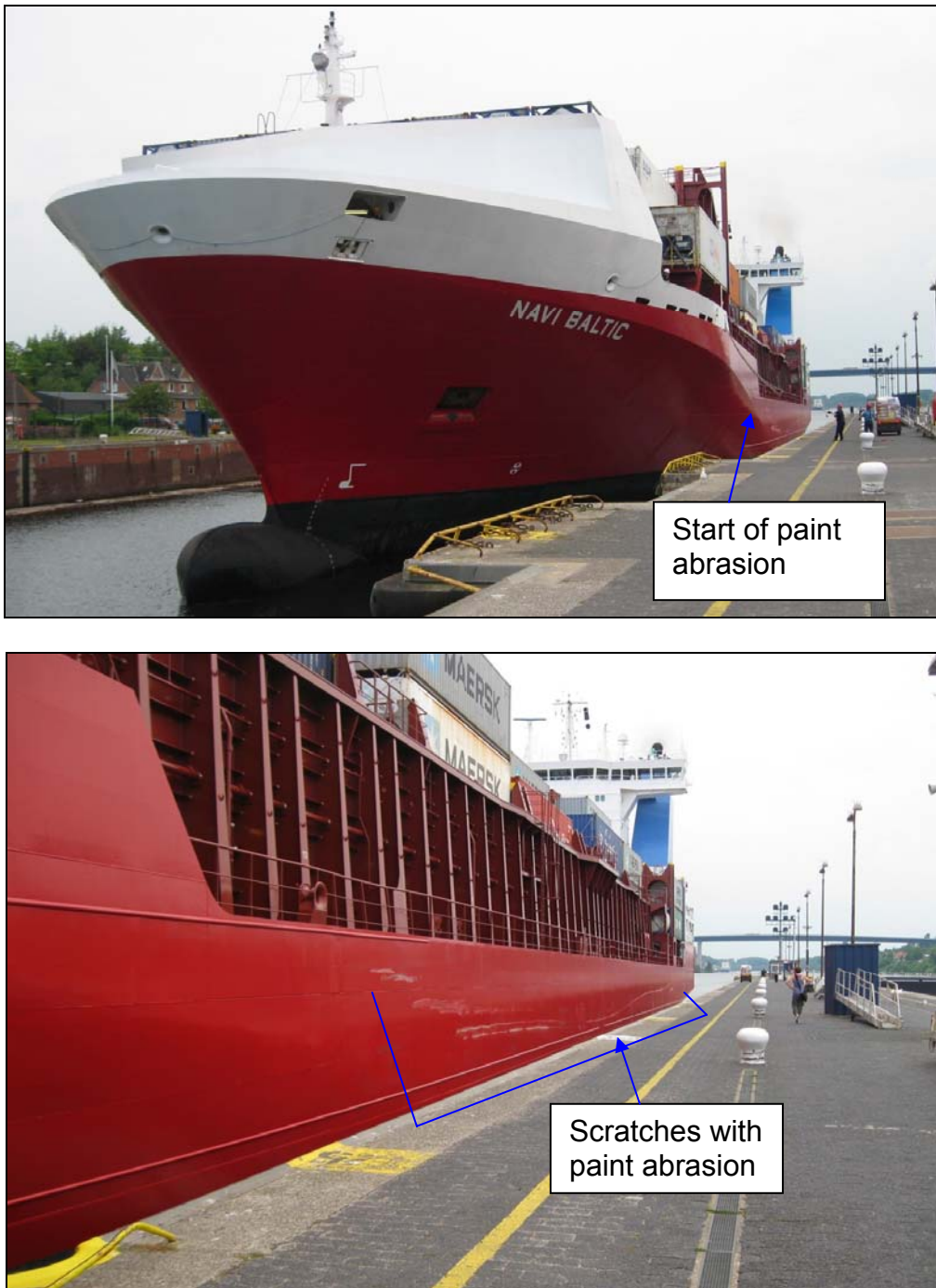


Figure 7: Damage to the CMV NAVI BALTIC

The CMV NAVI BALTIC was surveyed in the locks at Kiel. On the port side there was only paint abrasion stretching for about 120 m on the hull; this started about 40 m from the stem and ran to aft to the beginning of the superstructure.

3.3 Investigation of the J.R. TOLKIEN

The investigation of this serious marine casualty raised several questions concerning the sailing vessel J.R. TOLKIEN, which could not be answered conclusively due to a lack of cooperation and willingness demonstrated by the owner in the course of the investigation in terms of clarifying the accident.

3.3.1 Vessel data

The J.R. TOLKIEN is a two-mast gaff top schooner. She was adapted into a sailing passenger ship in the course of the conversion of an old ship's hull in the years 1996 to 1998. The hull used was from the former harbour tug DIERKOW, which was built in 1964 and 1965 at the Edgar-André Shipyard in the former GDR and scheduled to be scrapped in Amsterdam.

© Hasenpusch Photo-Productions



Figure 8: Sister vessel, the tug OLDENDORF

The photo of the sister vessel from a series of five, the tug OLDENDORF, shows the stage of construction prior to the conversion of the DIERKOW to the sailing vessel J.R. TOLKIEN.

Comparison of the main dimensions:

	Tug DIERKOW	J.R. TOLKIEN
Height:	3.50 m	3.56 m ⁵
Max. draught:	3.45 m	2.47 m - 3.20 m ⁶
Displacement:	261 t	n/a
Propulsion power:	660 kW	353 kW ⁷
Gross tonnage:	139 RT	139 GT

⁵ According to the Register Holland (RH) certificate

⁶ Various information

⁷ Engine change from 365 hp to 480 hp amended by hand in the RH certificate after the change; the year of installation/conversion is unclear.

3.3.2 Draught of vessel

The J.R. TOLKIEN only has a freeboard mark at about midships and no load line (draught marks) at each end of the vessel. Accordingly, it was not possible to establish the draught accurately on the day of the accident at the scene.

On the day of the accident, the vessel was manned by four people, including personal equipment. Apart from a waste water/sewage tank, all tanks were reportedly full.

Determination of the load condition and draughts based on the stability manual or similar written documentation has not been possible to this day because the BSU has not been furnished with these documents.

The Ship Safety Division was informed by fax from aboard that the draught is 2.67 m according to the certificates of registry and stands at 2.476 m with a load of 98% according to the stability manual.

These draughts presumably refer to the mean draught at the freeboard mark and not the maximum draught at the rudder heel.

According to information from the Internet⁸, the draught of the vessel is 3.20 m.

Due to the ambiguity of this information, the BSU conducted a survey on 19 July 2010 at the shipyard in Harburg to determine the maximum draught on the day of the accident. In spite of the owner receiving a corresponding request, neither a dock plan, nor a general arrangement plan, nor a tonnage certificate was on board when the survey was held. It was only possible for the BSU to determine the draughts roughly on the basis of the following construction sketch by measuring the freeboard.

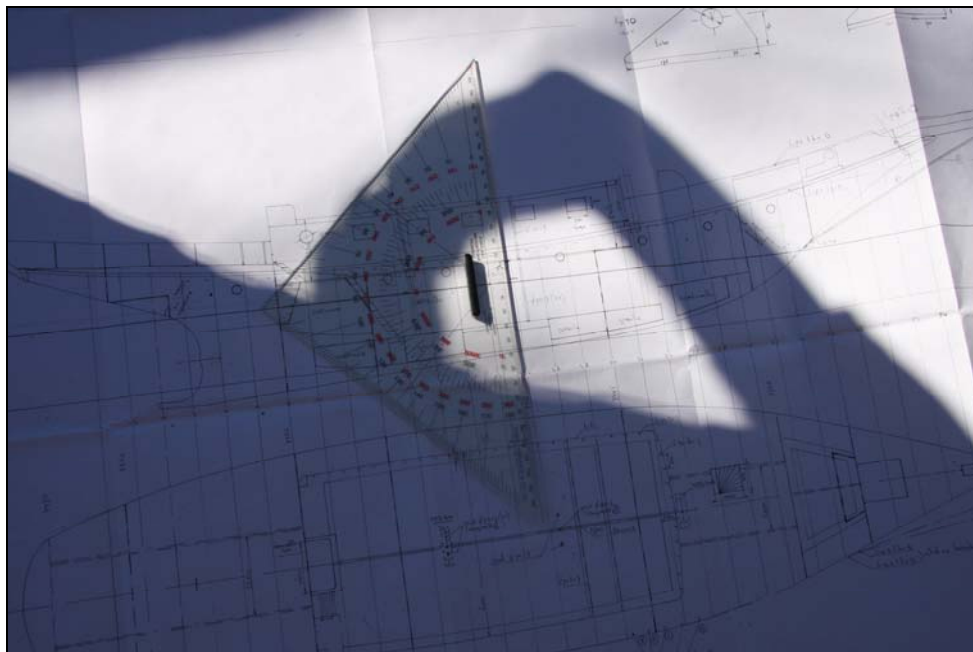


Figure 9: Construction sketch from aboard

⁸ Source: www.esys.org, www.windjammer-weltweit.de, www.sailtrain.de

The vessel was no longer fully equipped at the time since all the head gear from the forward section, e.g. bowsprit and jib boom, was taken ashore for repairs. By measuring the freeboard at the shipyard, the BSU established a draught of 3.30 m at the stern, of 2.70 m at the freeboard mark, and of 2.45 m at the bow. The BSU concludes that if all weights were brought back on board, then the vessel would, at any event, have had a maximum draught at the rudder heel of more than 3.10 m on the day of the accident.

After completion of the repair at the shipyard, the BSU was informed by telephone on 30 July 2010 that the maximum draught was now reportedly 3.00 m.

While sailing on the Kiel Canal on another occasion on 2 August 2010, the vessel was detained in Brunsbüttel. During the inspection, the nautical officer established a draught of 3.10 m and ordered that the vessel proceed with Traffic Group 1 classification (free-runner without pilotage).

In the written marine casualty report to the BSU dated 2 August 2010, the owner stated that at the time of the accident the draught astern was 3,000 mm (3.00 m).

The basis on which the draughts were determined by the owner and the nautical officer is not known. Due to the still unclear draughts, the BSU suggested that the owner have an official tonnage measurement carried out by the Schiffseichamt (office of weights and measures) in Hamburg-Harburg. Alternatively, it was planned to charter the vessel for a day at the expense of the BSU and have a measurement carried out by an expert with a vertical sonar.

Both proposals for clarifying the draught were declined by the owner on 12 August 2010. Moreover, repeated requests for the submission of stability calculations and drawings have not been complied with.

3.3.3 Operating mode of vessel

The question of the J.R. TOLKIEN's operating mode was raised during the course of the investigation.

In the BSU's questionnaire, the owner entered SAILING BOAT for type of vessel and TRADITIONAL SHIP for operating mode. The J.R. TOLKIEN is not in possession of a licence to operate as a traditional vessel⁹, but instead the following Dutch certificates, which were all issued on 20 April 2010:

1. Passenger Ship Safety Certificate No. 4244/2010, valid until 13 April 2011, issued for 90 passengers on board in the Passenger Ship Class C, length 23.59 m
2. Special Purpose Ship Safety Certificate No. 4245/2010, valid until 1 May 2014, Sail Training Ship
3. Minimum Safe Manning Document No. 4246/2010, Trading Area 1 (global travel), engine-powered yacht with 353 kW, valid until 1 May 2014

⁹ This refers to a traditional vessel approved by the Ship Safety Division according to the German Safety Directive for Traditional Vessels/article 6 Ordinance for the Safety of Sea-Going Ships.

4 ANALYSIS

4.1 Course of the accident

Both vessels were well in sight of one another and according to statements given, the CMV NAVI BALTIC was clearly detected by the J.R. TOLKIEN by AIS. About 15 to 20 minutes before the collision, the mate of the J.R. TOLKIEN made the helmsman, who was standing on the roof of the wheelhouse, aware of the approaching vessel. The vessel was proceeding parallel to the bank and the distance was reckoned to be sufficient. According to statements by her crew, the J.R. TOLKIEN was sucked in and broached despite a hard starboard rudder, 'surfed' the bow wave of the CMV NAVI BALTIC and collided with her.

Based on the damage configuration, this statement does not seem plausible. The first paint abrasion on the shell plating of the CMV NAVI BALTIC occurred on the forward section of the vessel, ahead of the parallel midship; therefore, hydrodynamic suction is not solely responsible for this accident. When the J.R. TOLKIEN changed course to port she must have still been influenced by the bow wave in a position where attracting forces were not yet evident. It is more likely that the J.R. TOLKIEN, which was proceeding at her maximum speed of 8 kts, came too close to the northern bank, moved away from there and as a result of too hard or the incorrect rudder manoeuvres moved across to the middle of the canal towards the approaching vessel. As such, the serious marine casualty was presumably caused by a steering error on the J.R. TOLKIEN.

4.2 Admissibility of the encounter and draught determination

Vessels which transit the Kiel Canal are categorised into traffic groups according to their size. Encounters between Traffic Group 5 and Traffic Group 1 vessels are permitted on the stretch between the Königsförde siding area and the Kiel Nordhafen (north harbour).

On account of the draught and to maintain the hydrodynamic balance of forces, the CMV NAVI BALTIC was compelled to sail in the middle of the canal fairway, and according to the recordings on board did so. Article 24 (4) – Encounters – German Traffic Regulations for Navigable Waterways (SeeSchStrO) states that vessels of Traffic Group 4 to 6 have priority. The J.R. TOLKIEN was proceeding as a Traffic Group 1 vessel.

Masters of Traffic Group 1 vessels are exempted from the obligation to make use of on board pilotage without an application, provided that the length, beam and draught of the vessel do not exceed 55 m, 8.5 m and 3.10 m respectively. Establishing the length and beam of vessels does not pose a problem; however, the draught, or more specifically the maximum draught, is established using load lines.

Pleasure craft and smaller German traditional vessels do not normally have load lines. In the case of these vessels, the draughts, which only change slightly due to changes in tank content, are recorded in the certificates. It is difficult to understand why the J.R. TOLKIEN, a licensed passenger ship resp. special purpose ship, does not have load lines in spite of their presence being required by SOLAS Chapter II-1 Regulation 5.6¹⁰.

¹⁰ "Each ship shall have scales of draughts marked clearly at the bow and stern."

Due to the problems discussed in sub-para 3.3.2, it was not possible for the BSU to determine the maximum draught on the day of the accident conclusively.

However, due to the non-determinable maximum draught, it needs to be questioned whether the J.R. TOLKIEN was exempted from making use of on board pilotage according to art. 9 Canal Pilotage Ordinance.

It is likely that such an accident would not have happened if the J.R. TOLKIEN was assigned to Traffic Group 2 and receiving advice from a pilot on board, because due to his special training with respect to the area, the canal pilot would have reduced speed and implemented rudder manoeuvres in good time in such encounter situations. Moreover, classification to Traffic Group 2 means that an encounter would not happen in this part of the canal because encounters with Traffic Group 5 are not permitted.

4.3 Operating mode

Although the operating mode was not relevant in this accident, it has not been clarified under which legal approvals the J.R. TOLKIEN was operating on that day, as a sailing passenger ship/special purpose ship, or other.

Second marine casualty:

Grounding and salvage of the sailing vessel ALBERT JOHANNES in the port of Wismar on 18 August 2010

5 SHIP PARTICULARS

5.1 Photo of the ALBERT JOHANNES



Figure 10: Photo of the ALBERT JOHANNES

5.2 Vessel particulars

Name of vessel:	ALBERT JOHANNES
Type of vessel:	Sailing vessel/passenger ship/ special purpose ship
Nationality/flag:	Netherlands
Port of registry:	Vlieland
IMO number:	5154959
Call sign:	PCKB
Owner:	Vlieland Sailing Charter
Year built:	1928
Shipyard/yard number:	v.d.Werf, 8321Z ROTT
Classification society:	None according to the IACS (RH Register Holland)
Length overall:	46.50 m
Breadth overall:	5.60 m
Gross tonnage:	120
Engine rating:	177 kW
Main engine:	Detroit V8

(Service) Speed: 7 kts
Hull material: Steel
Minimum safe manning: 4

5.3 Voyage particulars

Port of departure: Großenbrode
Port of call: Wismar
Type of voyage: Merchant shipping/national/international
Cargo information: 28 passengers
Draught at time of accident: 1.50 m
Manning: 2
Number of passengers: 28

5.4 Marine casualty information

Type of marine casualty: Serious marine casualty, grounding
Date/time: 18 August 2010/1710
Location: Outside the Wismar fairway
Latitude/Longitude: ϕ 53°54.3'N λ 011°26.5'E
Ship operation and voyage segment: Calling at the port of Wismar
Place on board: Deck
Human factors: Yes, human error

Consequences (for people, ship, cargo, environment, other):

No injuries, no pollutants escaped, damage to the rudder blade of the ALBERT JOHANNES and probably paint abrasions/dents in the bottom area

Excerpt from Chart Lübeck Bay, Mecklenburg Bay, BSH No. 3005, Sheet 22, Plan C

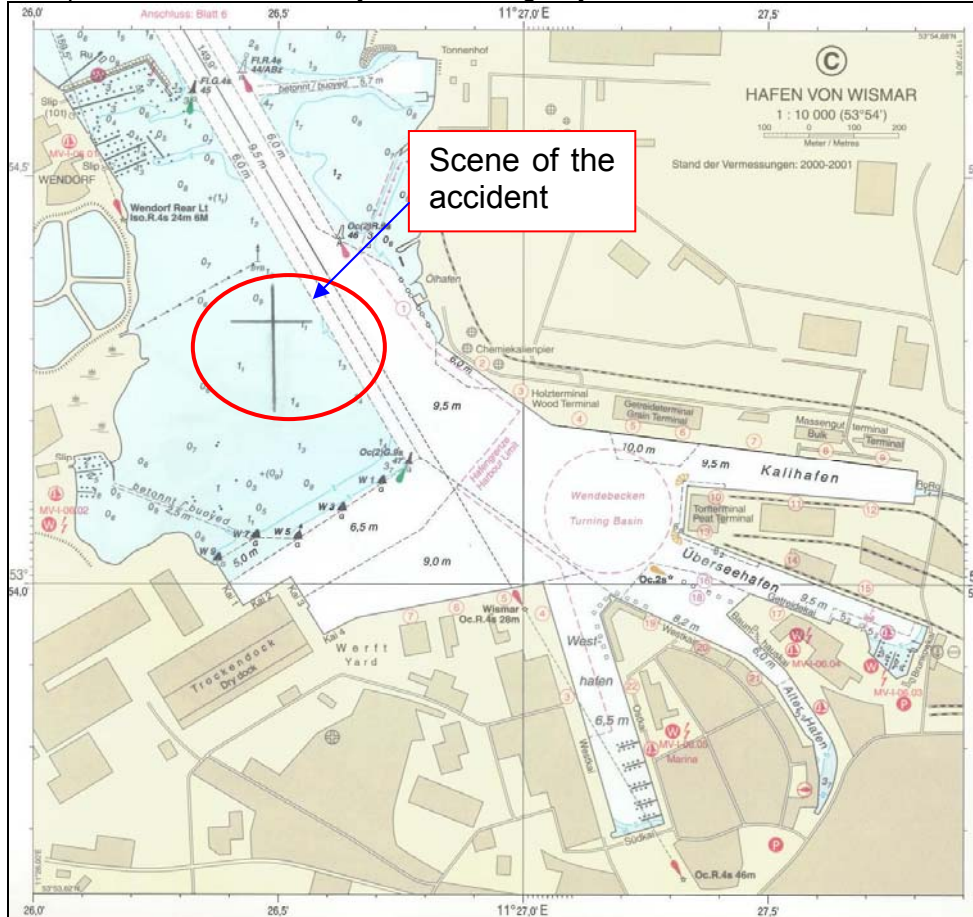


Figure 11: Chart of the port of Wismar

5.5 Shore authority involvement and emergency response

Agencies involved:	Waterway police (WSP), GL, Ship Safety Division (BG Verkehr)
Resources used:	Hauled free by towing boat
Actions taken:	Survey of the damage
Results achieved:	Proceeded without conditions

6 COURSE OF THE ACCIDENT AND INVESTIGATION

The investigation reports of WSP Wismar, the report of Germanischer Lloyd, and the report of the master and owner of the sailing vessel ALBERT JOHANNES were available for the accident investigation.

The vessel was on an international voyage (Germany-Denmark-Germany) as a special purpose ship with 28 passengers on board. The crew consisted of a 43-year-old master and a 26-year-old mate. The vessel sailed out of Großenbrode at 1200. According to the log book, 'SPS/Special Purpose Ship' was chosen for the operating mode; however, an additional crew member was not defined from among the passengers. According to statements given, while taking down the sails between buoys 45 and 47 at about 1700, just before the east cardinal buoy, a gust of about 6 Bft pushed the ALBERT JOHANNES into a group of fish baskets. Engine and rudder manoeuvres were implemented to prevent the fish baskets from being damaged. In the process, the vessel became stuck. While being questioned, the master stated that he had called at the port of Wismar 25 to 30 times and was reportedly aware of the water depths outside the fairway. On that day, the water level dropped significantly due to the prevailing SE wind and also dropped during the period in which the vessel became stuck.

The ALBERT JOHANNES was unable to free herself under her own steam and also not with the assistance of a German traditional vessel. She was hauled free at about 1430 on 19 August 2010 by the tug FAIRPLAY VII.

6.1 Operating mode of vessel

The owner submitted the following approval certificates to the BSU during a survey of the vessel on 18 Oct 2010, which were all issued on 20 April 2010:

1. Passenger Ship Safety Certificate No. 4263/10, valid until 19 April 2011, issued for 68 passengers on board in the Passenger Ship Class C, length 32.65 m
2. Special Purpose Ship Safety Certificate No. 4264/2010, valid until 1 May 2013, Sail Training Ship 120 GT, IMO No. 5154959, life-saving appliances for 32 people
3. Minimum Safe Manning Document No. 4261/2010, power-driven sailing vessel with 326 kW, valid until 1 May 2013

and the following certificate:

4. CERTIFICATE OF SEAWORTHINESS FOR THE TRADING AREA 16, No. 7561/2008, issued 10 July 2008, valid until 1 May 2013, maximum 32 people on board, no stipulations regarding wind force.

In the marine casualty report of the BSU, 'merchant ship' and 'traditional ship' are ticked for the operating mode and 'professional sailing ship' is added by hand for the type of vessel.

7 Analysis

During the five-day voyage with 28 'special personnel', the ALBERT JOHANNES proceeded only with an experienced master and a mate; her operating mode was 'special purpose ship' according to the SPS Code. However, according to Dutch manning regulations, two other ratings should have been on board or the master should have named two people from the group of 'special personnel' as responsible ratings.

Training or instruction is not provided on board the ALBERT JOHANNES and contrary to the regulations for special purpose ships, there is no licence for that.

The accident involving the ALBERT JOHANNES was caused by a navigational miscalculation of wind conditions and the actual water depths outside the fairway in the port of Wismar. Added to that is the fact that with only two people with the requisite knowledge, the vessel was undermanned.

The ALBERT JOHANNES was inspected and licensed with respect to seaworthiness by the national Dutch Register Holland. The extent to which these inspections comply with all relevant international technical rules was not investigated further.

Third marine casualty:

Collision between the sailing vessel SKYLGE and the motor yacht SPUTNIK 2 in the port of Stralsund on 22 August 2010

8 SHIP PARTICULARS

8.1 Photo of the SKYLGE

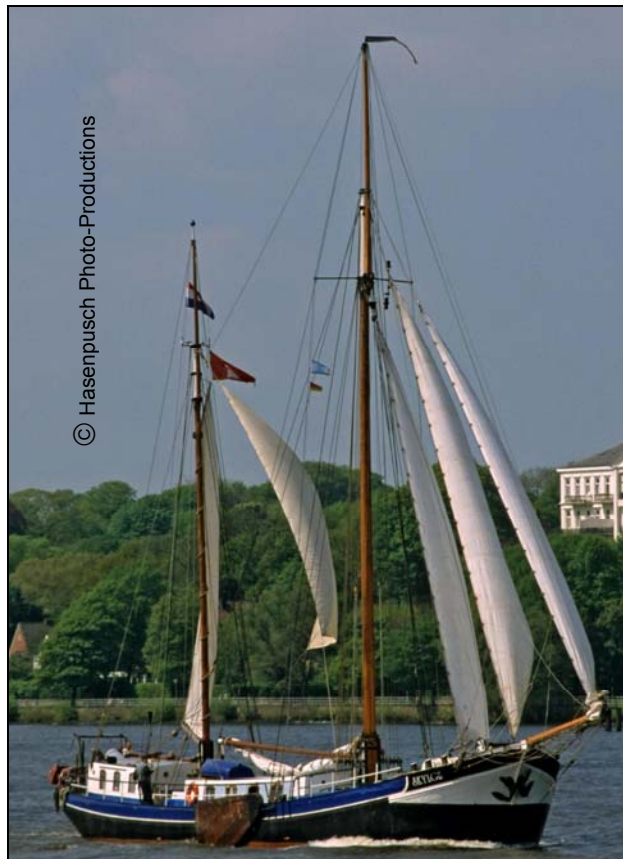


Figure 12: Photo of the SKYLGE

8.2 Vessel particulars¹¹

Name of vessel:	SKYLGE
Type of vessel:	Sailing vessel/passenger ship/ special purpose ship
Nationality/flag:	Netherlands
Port of registry:	Enkhuizen
IMO number:	None
Call sign:	PHLS
Owner:	Oostzeeklipper Skylge, Fokko L.Snoek
Year built:	1910
Shipyard/yard number:	Not known

¹¹ Vessel particulars from the Internet, www.skylge.de, www.skylge.nl

Classification society:	None according to the IACS (RH Register Holland)
Length overall:	29.30 m
Breadth overall:	6.08 m
Gross tonnage:	108
Deadweight:	n/a
Engine rating:	95 kW
Main engine:	MWM 618 RHS
(Service) Speed:	8 kts
Hull material:	Steel
Minimum safe manning:	4

8.3 Voyage particulars

Port of departure:	Stralsund
Port of call:	n/a
Type of voyage:	Merchant shipping/national/international
Cargo information:	None
Draught at time of accident:	n/a
Manning:	4
Number of passengers:	None

8.4 Photo of the MY SPUTNIK 2



8.5 Vessel particulars

Name of vessel:	SPUTNIK 2
Type of vessel:	Motor yacht
Nationality/flag:	German
Port of registry:	Hamburg

Year built:	1991
Shipyard/yard number:	Flemming 52
Length overall:	17.75 m
Breadth overall:	4.60 m
Draught:	1.50 m
Displacement:	Approx. 30 t
Engine rating:	2 x 154 kW
Main engine:	2 x Caterpillar
(Service) Speed:	9 kts
Hull material:	GRP

8.6 Marine casualty information

Type of marine casualty:	Marine casualty, collision
Date/time:	22 August 2010/1910
Location:	Stralsund Fischbrücke LP 7
Latitude/Longitude:	ϕ 54°18.9'N λ 013°05.9'E
Ship operation and voyage segment:	Casting off
Place on board:	Damage to shell plating
Human factors:	Yes, human error

Consequences (for people, ship, cargo, environment, other):

No injuries, no pollutants escaped, damage to the MY SPUTNIK 2 and paint abrasions on the SKYLGE.

Excerpt from Chart Lübeck Bay, Mecklenburg Bay, BSH No. 3005, Sheet 23

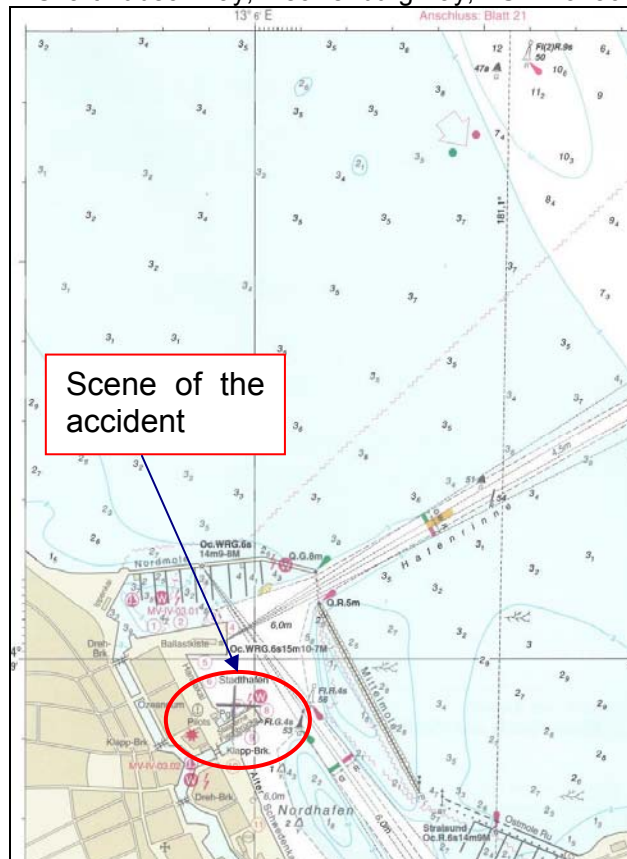


Figure 13: Chart of port of Stralsund

8.7 Shore authority involvement and emergency response

Agencies involved:	WSP
Resources used:	Crew
Actions taken:	Survey of the damage
Results achieved:	SKYLGE proceeded without conditions

9 COURSE OF THE ACCIDENT AND INVESTIGATION

The investigation reports of WSP Stralsund and WSP Lübeck as well as the report of the owner of the MY SPUTNIK 2 were available for the accident investigation. The master and owner of the SKYLGE refused to cooperate with the BSU; that also applies to the copying of the documents on board by WSP Lübeck on behalf of the BSU.

9.1 Course of the accident

A SW to NW wind with an intensity of 2 to 3 Bft prevailed at the time of the accident. The SKYLGE lay alongside another vessel and wanted to cast off with an onshore wind. While attempting to move away from the pier, the starboard side of the SKYLGE rammed the stern of the MY SPUTNIK 2 on the port side.

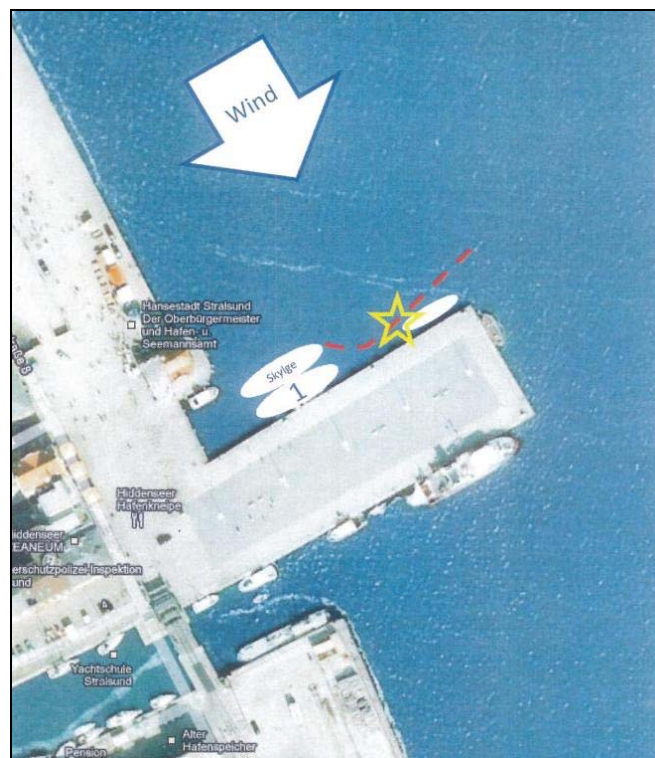


Figure 14: Sketch of the accident by the owner of the MY SPUTNIK 2¹²

According to the above sketch and statements by the crew members of the MY SPUTNIK 2, it is apparent that the master of the SKYLGE underestimated the onshore wind or did not manoeuvre sufficiently clear of the other vessels. Statements by the crew members of the SKYLGE were not available, meaning it was not possible to determine whether any technical problems, gaps in experience/qualification, or simply navigational miscalculation of the overall situation caused the marine casualty.

¹² As far as we are aware, a Google Earth image was used as the basis for the sketch

9.2 Operating mode of vessel

The questions of the BSU about the vessel and her operating mode were not answered by the owner. In the course of the accident investigation on board, WSP Stralsund copied the following approval certificate on 22 August 2010:

1. CERTIFICATE OF SEAWORTHINESS FOR THE TRADING AREA 16, No. 3521/2008, issued 1 April 2008, valid until 31 December 2012, maximum 27 people on board and up to 7 Bft.

On 18 September 2010 in the port of Lübeck, WSP Lübeck found that the following Dutch certificates were on board; however, the owner did not wish for these to be copied:

2. Passenger Ship Safety Certificate No. 2833/10, issued 19 March 2010, valid until 19 March 2011
3. Special Purpose Ship Safety Certificate No. 2843/2010, issued 19 March 2010, valid until 31 December 2012, Sail Training Ship (**no** IMO No.)
4. Minimum Safe Manning Document No. 2831/2010, **without** validity statement according to the findings of the WSP (valid until 31 December 2012 according to copies of the Onderzoeksraad voor Veiligheid (Dutch Safety Board))

In the course of the investigation, the Dutch investigating authority, 'Onderzoeksraad voor Veiligheid', submitted copies of certificates 1, 3 and 4 marked 'Concept'. A copy of Passenger Ship Safety Certificate No. 2833/10 according to the EU Directive on passenger ships was not submitted and is not in the BSU's possession.

It was not possible to establish in the course of this investigation the legal basis on which the certificates of registry were issued without the SKYLGE (with a measurement of 108 GT according to the certificates) being in possession of an IMO number. These IMO ship identification numbers, which according to IMO Res. A.600(15) and SOLAS Chapter XI-1 are required for all passenger ships of more than 100 GT, must be permanently¹³ mounted outside and in.

10 Analysis

The marine casualty involving the collision between the SKYLGE and the MY SPUTNIK 2 could not be evaluated adequately because the owner of the SKYLGE refused to cooperate with the BSU with regard to clarifying the accident. If we use only the statements of the owner of the MY SPUTNIK 2 and the investigations of the WSP as a basis, it seems that the master of the SKYLGE underestimated the wind conditions when casting off and assessed the manoeuvring characteristics of his vessel very wrongly. It was not possible to assess to what extent the accident was

¹³ Permanent marking: welded or riveted at least 200 mm high outside on a visible part of the stern or sides of the vessel and at least 100 mm high marking in an easily accessible position in the engine room transverse bulkhead or hatch. (The external visible marking on the other vessels investigated by the BSU was only painted on. Therefore, it is not possible to ascertain how easily this marking is erased.)

caused by lacking skills and experience of the master and crew, communication problems, or technical problems on board.

Based on the website of the sailing vessel SKYLGE, it seems that she is operated as a passenger ship for national and international voyages with 24 passengers in the case of multi-day voyages with accommodation and 40 passengers in the case of single-day voyages and is also present at major events.



Figure 15: Kiel Week Parade 2009

There was no information with respect to safety management, if present on board the SKYLGE at such events. Regardless of that, when looking at the above photo one must critically question whether positioning passengers on the roof of the superstructure is consistent with conventional seamanship. The above photo is not an isolated case. Photos of other Dutch vessels exist where in parades passengers are also positioned in such a vulnerable, unprotected area.

11 Summary analysis of all three marine casualties

In the case of all three marine casualties, damage was only minor and fortunately there were no injuries.

However, in the course of the investigation, significant safety gaps were discernible with respect to the licensing and operation of these three vessels. All three vessels had an international certificate issued by the Dutch flag State Administration 'Inspectie Verkeer en Waterstaat' on board.

11.1 Difficulties in the investigation

According to art. 7 Ordinance on the Safety of Shipping, every master and owner who sails a vessel under the German flag is obliged to immediately report and provide information on any incident which causes damage or gives rise to danger with respect to the vessel. This obligation, which may be enforced by administrative proceedings if necessary, does not apply in the event of an accident involving vessels in German waters which sail under a foreign flag. In investigating these three marine casualties, the BSU, as the coastal State concerned, was dependent on the voluntary cooperation of the masters, crew members and owners for clarification.

While the master and owner of the ALBERT JOHANNES willingly provided all information, the owner of the J.R. TOLKIEN was no longer willing to cooperate after a certain point. The master and owner of the SKYLGE refused to provide any information; therefore, it was not possible to fully investigate these two marine casualties.

11.2 Approval

According to article 6 paragraph 3 (c) Directive 2009/45/EC, as host State, formal approval of the rules applied to a passenger ship of another flag State, which operates regularly in domestic voyages, is required by the German Administration. According to present information, such an approval of the host State has not been granted by Germany, even though this is required by the Directive on passenger ships.

Also in terms of safety equipment, e.g. appliances for launching/hoisting boats and rescue boats according to SOLAS, IMO Res. 81(70) and LSA Code¹⁴ Chapter V, it is doubtful that the investigated vessels would have been approved as passenger ships or special purpose ships under the German flag.

For formal approval as a special purpose ship according to the SPS Code, the Sail Training Ship prerequisite is absent, or also as another type of training vessel since formulated and approved training plans, including the qualifications of the instructors, were obviously not present or not submitted.

¹⁴ International Life-Saving Appliance (LSA) Code pursuant to IMO Resolution MSC.48(66)

It was not possible to check the extent to which the SPS Code was actually applied during the registration of the vessels, or whether the SPS Code was used purely as a legal framework for the certificate.

11.3 Passenger Ship Safety Certificate¹⁵

The *Passenger Ship Safety Certificate* refers to a passenger ship used for domestic voyages. This certificate of the Dutch Administration is issued according to Directive 2009/45/EC. 'Domestic voyage' means a voyage in sea areas from a port of a Member State to the same or another port within that Member State. The required approval by the German Administration to operate on a domestic voyage in Germany is, as stated in sub-para. 11.2, absent.

Passenger ships are divided into the following classes according to the area in which they operate: Class 'C' concerns *"a passenger ship engaged only on domestic voyages in the course of which she is at no time more than 15 nm from a place of refuge at medium tide height or more than 5 nm from the line of coast at medium tide height"*

This directive applies to passenger ships with a length exceeding 24 m on regular domestic voyages.

According to the certificate, the length of the J.R. TOLKIEN is 23.59 m. It was not possible to verify this for lack of design documents. Based on the length stated in the *Ship Safety Certificate*, application of the EU Directive on passenger ships would not be mandatory for this vessel of less than 24 m.

It is likely that an inspection of the ships for compliance with the EU directives on safety and standards for passenger ships, which was carried out according to the directives by an organisation¹⁶ recognised by the EU Commission, would bring problems to light with regard to compliance with the fire and damage stability requirements as well as the necessary life saving appliances according to SOLAS/LSA Code.

11.4 Special Purpose Ship Safety Certificate¹⁷

These *Special Purpose Ship Safety* certificates are issued on the basis of IMO Resolution MSC.266(84), SPS Code, Safety of Special Purpose Ships. The reason for this resolution is, alongside the crew members, to avoid designating 'special personnel' on board the vessel as passengers and thus avoid the necessity to operate these vessels in accordance with the more stringent safety requirements of SOLAS.

Quote from the IMO Code of Safety for Special Purpose Ships (Resolution MSC.266(84)):

¹⁵ See page 42 of Appendix 14.1

¹⁶ Particularly, the existing classification societies ABS, BV, CCS, DNV, GL, HR, KR, LR, NK and RINA, but not RH Register Holland.

¹⁷ See page 46 of Appendix 14.2

Chapter 1, 1.3.11

"Special personnel" means all persons who are not passengers or members of the crew or children of under one year of age and who are carried on board in connection with the special purpose of that ship or because of special work being carried out aboard that ship.

.....

Special personnel are expected to be able bodied with a fair knowledge of the layout of the ship and to have received some training in safety procedures and the handling of the ship's safety equipment before leaving port and include the following:

.....

.3

Personnel engaging in training and practical marine experience to develop seafaring skills suitable for a professional career at sea. Such training should be in accordance with a training programme approved by the Administration."

All three vessels are classified by the flag State as 'Sail Training Ship'. However, the number of special personnel this 'sail ship training' is conducted for is not apparent from the SPS certificates. Furthermore, according to existing information, a training programme approved by the Administration does not exist for these 'SPSs'. Research on the Internet and questioning indicates that such special training is not even offered on board the vessels under investigation.

With regard to life saving appliances on board, a lesser standard is required than for passenger ships. SPS Code Chapter 8.4 reads: *"A special purpose ship carrying not more than 60 persons on board should comply with the requirements contained in Chapter III of SOLAS for cargo ships other than tankers..."* SOLAS Chapter III Regulation 3/Cargo ships under para. 2/Rescue boats, for example, reads: *"Cargo ships shall carry at least one rescue boat, which complies with the requirements of Section 5.1 of the Code"¹⁸.*

¹⁸ Here, reference is made to the International Life-Saving Appliance (LSA) Code.



Figure 16: Inflatable boat of the J.R. TOLKIEN

On Figure 16 above, the J.R. TOLKIEN had an inflatable boat for lowering hanging outboard at the stern during the survey by the BSU. This launching device and also the inflatable boat are not approved as a fast rescue boat according to SOLAS, IMO Res. 81(70) and LSA Code, Chapter V, Section 5.1 and Chapter VI.

According to SOLAS, this requirement for fast rescue boats also applies for passenger ships under 500 GT¹⁹ to the same extent.

We are not aware of a formal exemption from carrying a fast rescue boat according to Chapter III-2 Annex I of the Directive on passenger ships. Such an exemption would only be possible on the following grounds: *"that the installation of a rescue boat or fast rescue boat on board of a ship is **physically impossible**"* and with the application of other corresponding requirements. In the case of the vessels investigated by the BSU, such grounds for exemption do not constitute a valid argument.

Based on the low freeboard and speed, a rescue boat that can be lowered into the water quickly is still the best way to rescue people from the water, especially when a special purpose ship or passenger ship is operated under sail and not very manoeuvrable.

11.5 Minimum Safe Manning Document²⁰

The three vessels investigated all possess an almost identical minimum safe manning certificate.

It is noted in the certificate that the master should enter the operating mode in the deck log book for the particular voyage before proceeding on it. In that respect, a selection can be made as to whether a single-day voyage or multi-day voyage as a sailing passenger ship, sailing special purpose ship, or a transfer voyage as a motor vessel without passengers on board is to be carried out.

¹⁹ See SOLAS Chapter III, Regulation III, Section 2.2

²⁰ See page 47 of Appendix 14.3

In the operating mode of the J.R. TOLKIEN, 'passenger ship' with 90 passengers on board, for instance, on a single-day voyage, the number of crew members must include a master, a mate and three ratings. *"When the number of passengers is 36 or less, the mate is not necessary and two 'ratings' may be replaced by passengers at the master's discretion if these are capable of fulfilling the duties of those two 'ratings'".* Responsibility for the safety of the passengers is then transferred to two people from among the passengers!

When selecting the operating mode 'special purpose ship', according to the SPS Code, with no more than 36 special personnel on a single-day voyage, these two ratings may also be replaced by other special personnel at the master's discretion. When this simplification is applied, the only people in the crew with maritime experience are the master and another rating. It is questionable whether it is at all possible to carry out a well-founded sail training course according to the SPS Code under these conditions when the master and rating are already sufficiently occupied with managing the vessel.

In the case of both operating modes, such a replacement of the ratings, who have usually gone through several months of training on board, by two people for whom nothing more is said about qualifications and experience, needs to be closely scrutinised.

11.6 Certificate Of Seaworthiness for the Trading Area 16²¹

This concerns a national certificate similar to the old Sailing Permit issued by the See-BG, which according to SOLAS and the EU Directive on passenger ships has no legal basis internationally.

The term 'Trading Area 16' refers to: "Coastal waters, 25 sea-miles out of Belgium, Netherlands and German coast from Nieuwpoort to the estuaries of the rivers Elbe and Eider, through the North-Baltic-Sea Canal to the Baltic Sea, Belten, Sont and Kattegat in the north to the line Skagen Gothenborg and in the east Simrishamn- east coast Bornholm Greifswald and 25 sea-miles around Bornholm."

In formal terms, calling at a port outside the Netherlands and also a cabotage voyage²² of sorts was and is not permissible with this certificate.²³

11.7 Ship Safety Construction and Equipment Certificate

None of the three Dutch sailing vessels investigated possess an internationally recognised valid class certificate. Acceptance tests or intermediate surveys were performed only by Register Holland (RH).

²¹ See page 52 of Appendix 14.4

²² The provision of transportation services within a country by foreign carriers or transportation between EU Member States (including passenger transport).

²³ See Council Regulation (EEC) No. 3577/92, art. 3 para. (1)

The EU Directive on passenger ships makes reference to 'recognised organisations' according to Article 4 of Directive 94/57/EC on common rules and standards for ship inspection and survey organisations. Approved, and thus a guarantee for consistent quality, are the classification societies of the International Association of Classification Societies (IACS). These classification societies are also exclusively recognised for ships flying the flag of Holland, which carry more than 36 passengers, by the Dutch 'Inspectie Verkeer en Waterstaat'.

Register Holland is specified by neither the EU nor the Dutch authorities as an internationally operating organisation (Authorised Recognised Organisation). Register Holland is purely a national organisation that is permitted to issue Dutch sailing vessels a certificate of seaworthiness under its own rules for sea-going sailing vessels with no more than 36 passengers (White Rules) on board.²⁴

The licences of the J.R. TOLKIEN and the ALBERT JOHANNES as EU passenger ships were issued for more than 36 passengers on board; the certificate of the SKYLGE was not available for inspection.

²⁴ See website: www.register-holland.nl

12 CONCLUSIONS

The accident involving the sailing vessel J.R. TOLKIEN was only minor. However, it is conceivable that the ship could have crossed the bow of the CMV NAVI BALTIC with 90 passengers on board.

Regardless of whether the ship is operated as a pleasure craft, special purpose ship, or passenger ship, responsibility always rests with the master. The master is responsible for the equipment, number and qualifications of the crew and the instruction of passengers as well as compliance with the safety rules for the area of operation.

From the perspective of the BSU, the investigated vessels displayed significant deficiencies in terms of equipment and safety, which are not in line with international regulations. With regard to the operation of these vessels, there is no adequate safety instruction in those deck areas that are potentially hazardous, for example, closing-off certain areas when making fast, closing-off the unsecured superstructures, decks for passengers.



Figure 17: Departure Parade, Kiel 2010

At major maritime events, a departure parade such as that shown above for example, the crew has enough to do with handling the sails, navigating and observing the rules for avoiding collisions. If these vessels are then sailed with only two experienced crew members with, for example, 90 passengers, problems and critical situations are inevitable. Whether used as a passenger ship or as a special purpose ship, the right ratio must prevail between the number of qualified crew members and the number of passengers or the special purpose of the ship. A reduction of experienced crew

members and replacement by passengers, without the definition of criteria for qualification and experience, reduces safety standards significantly.

Inexperienced passengers on board must be able to rely on the fact that all safety regulations are met, that the crew is qualified as well as experienced, and that the vessel is licensed for the type of transportation.

Based on their use, the BSU takes the view that the three vessels investigated are passenger ships and do not count as special purpose ships according to the SPS Code when on international voyages. These vessels are used on domestic and international voyages for the transportation of paying passengers. That the same co-sailors on the same vessel are supposedly passengers on domestic voyages and special personnel on international voyages, and added to that, that the change in status of vessel and passengers/special personnel is effected simply by an entry in the log book, is somewhat unconvincing.

In the interest of passenger safety, the relevant provisions of the EU Directive on passenger ships must be complied with on domestic voyages, and the SOLAS regulations for passenger ships on international voyages, without the flag State falling back on possibilities for exemption.

The three marine casualties investigated are not a random accumulation of individual cases. A total of 22 marine casualties involving Dutch sailing passenger ships have been reported to the BSU since 2003. These cases are made up of collisions, groundings, injured people on board and persons falling overboard.

The issue of Dutch sailing vessels on domestic voyages in Germany under the EU Directive on passenger ships and on international voyages as special purpose vessels as well as the associated issue of compliance with international safety rules are long-standing and debated in an extremely controversial, partly polemic manner. On no account does the BSU wish to enter into this debate; however, for reasons of safety it is imperative that orderly and safe conditions are established for the operator, the supervisory and control authorities, but also for the passengers, in particular, and that a basic rule is soon found.

13 SOURCES

- Investigations by the waterway police (WSP)
- Written statements
- Witness accounts
- Reports/expert opinion
- Charts and vessel particulars, Federal Maritime and Hydrographic Agency (BSH)
- Official weather report by Germany's National Meteorological Service (DWD)
- Radar plots, Vessel Traffic Services (VTS)/Vessel Traffic Centres

14 Appendices

14.1 Passenger Ship Safety Certificate

Page 1 of 3 SI Vessel number: 34046 Certificate number: 4244/2010



The Netherlands

PASSENGER SHIP SAFETY CERTIFICATE

Issued under the provisions of The Ships Decree 2004

and confirming compliance of the vessel named hereafter with the provisions of Directive 2009/45/EC of the European Parliament and of the Council on safety rules and standards for passenger ships

Under the authority of the government of the Netherlands by the Head of the shipping inspectorate

Name of Ship	Distinctive letters	IMO Number
J.R. TOLKIEN	PFRB	7017064
Port of Registry	Number of Passengers	Length (m)
AMSTERDAM	90	23,59

Date on which keel was laid or ship was at a similar stage of construction: 01-01-1960

Date of initial survey: 13-04-2010

Class of Ship in accordance with the sea area in which the ship is certified to operate:	C
--	---

Subject to the following restrictions or additional requirements:

- GMDSS SEA AREA A1
- Lifejackets (100 % ; children's lifejackets as applicable)
- Liferaft capacity 110% (100 % capacity must remain after loss of the biggest liferaft)
- Manning according to Minimum Safe Manning Document.

THIS IS TO CERTIFY:

1. That the ship has been surveyed in accordance with Article 12 of Directive 2009/45/EC of the European Parliament and of the Council.
2. That the survey showed that: the ship fully complies with the requirements of Directive 2009/45/EC.

VC-PDV 09-03-2010 EA/GT/MvV
Sectie KV

Page 2 of 3

SI Vessel number: **34046** Certificate number: **4244/2010**

3. That the ship is, under the authority conferred by Article 9(3) of Directive 2009/45/EC exempted from the following requirements of the Directive:

**6.1.b (IV/7.2) Aeronautical frequencies
Annex I chapter III reg. 2. 3rd two-way VHF radiotelephone apparatus.**

Conditions, if any, on which the exemptions are granted:


4. That the following subdivision load lines have been assigned:

Subdivision load lines assigned and marked on the ship's side at amidships (regulation II-1/B/11)	Freeboard (in mm)	Remarks with regard to alternative service conditions:
C.1	990	
C.2		
C.3		

This certificate is valid until **13-04-2011** in accordance with Article 12 of Directive 2009/45/EC.

Issued at Rotterdam, on **20-04-2010**, under number: **4244/2010**.

The Head of the Shipping Inspectorate,
on his behalf,



H. Bosman-Koch

VC-PDV 09-03-2010 EA/GT/MvV
Sectie KV

14.2 Special Purpose Ship Safety Certificate

Page 1 of 9
SI Vessel no:
34046
Certificate no:
4245/2010

SPECIAL PURPOSE SHIP SAFETY CERTIFICATE

The Netherlands

This certificate shall be supplemented by a record of equipment

Issued in compliance with the provisions of the
CODE OF SAFETY FOR SPECIAL PURPOSE SHIPS
 under the authority of the Government of the Netherlands
 by
 the Head of the Shipping Inspectorate

Name of ship J.R. TOLKIEN		Port of Registry AMSTERDAM	
Distinctive number or Letters PFRB	Imo number 7017064	Gross tonnage 139	
Ship's Special Purpose		Sail Training Ship	

Sea areas in which ship is certified to operate (regulation IV/2): **A1,A2**

Date of build:

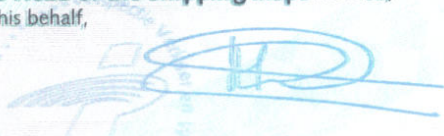
Date of building contract	
Date on which keel was laid or ship was at similar stage of construction:	01-01-1960
Date of delivery	04-06-1998
Date on which work for a conversion or an alteration or modification of a major character was commenced (where applicable):	12-03-1998

All applicable dates shall be completed.

THIS IS TO CERTIFY:

1. That the ship has been surveyed in accordance with the requirements of regulation 1/6 of the Code.
2. That the survey showed that:
 - 2.1 The ship complied with the provisions of the Code as regards:
 - 2.1.1 the structure, main and auxiliary machinery, boilers and other pressure vessels;
 - 2.1.2 the watertight subdivision arrangement and details;
 - 2.2 the ship complied with the provisions of the Code as regards structural fire protection, fire safety systems and appliances and fire control plans;
 - 2.3 the life-saving appliances and the equipment of lifeboats, liferafts and rescue boats were provided in accordance with the provisions of the Code;
 - 2.4 the ship was provided with a line-throwing appliance and radio installations used in life-saving appliances in accordance with the provisions of the Code;
 - 2.5 the ship complied with the provisions of the Code as regards radio installations;
 - 2.6 the functioning of the radio installation used in life-saving appliances complied with the provisions of the Code;
 - 2.7 the ship complied with the provisions of the Code as regards shipborne navigational equipment, means of embarkation for pilots and nautical publications;
 - 2.8 the ship was provided with lights, shapes, means of making sound signals and distress signals, in accordance with the provisions of the Code and the International Regulations for Preventing Collisions at Sea in force;
 - 2.9 in all other respects the ship complied with the relevant provisions of the Code.
3. That an Exemption Certificate: **has not** been issued.
4. That the ship is **not** provided with Certificates issued under the 1974 SOLAS Convention as amended.

This certificate is valid until **01-05-2014**
 Issued at Rotterdam, the **20-04-2010** under number: **4245/2010**
The Head of the Shipping Inspectorate,
 on his behalf,



H. Bosman-Koch

Model VCSPS2 10-11-2008 PCL/EA/GT/MVV
 Sectiefis: KV

14.3 Minimum Safe Manning Document

Anlage III
 Certificate number: 4246/2010

Page 1 of 5 SI Vessel number : 34046

MINIMUM SAFE MANNING DOCUMENT FOR THE TRADING AREA: 1*

Issued under the provisions of regulation V/14.2 of the
 INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974, as amended
 and
 Pursuant to article 5 "Manning Act" or "Manning Order for sea-going fishing vessels" chapter 2 and
 chapter 3.

The Head of the Netherlands Shipping Inspectorate declares that in accordance with the provisions of the
 Manning Act, or in accordance with the Manning Order for sea-going fishing vessels, the following
 minimum safe manning is required on board of:

Name of Vessel		Distinctive number or letters	
J.R. TOLKIEN		PFRB	
IMO number	Gross tonnage	Propulsion power in kW	
7017064	139	353	
Port of Registry	Type of Ship	Periodically unattended machinery space	
AMSTERDAM	Sailing vessel	YES	

Table I

Grade / capacity	Certificate (STCW reg.)	Number	Particulars
Master		1	
Chief mate		1	
Rating deck		2	

For conditions table I see page 3

Note
 All officers shall be in the possession of a Dutch certificate of competency for sailing vessels or an endorsement, to be in compliance with the Dutch manning act.

*) Refer for description of Trade Area to Annex

Model BC3TAB 17-12-2008 EA/MVV/PI

Page 2 of 5

SI Vessel number :
34046

Certificate number:
4246/2010

Table II

Grade / capacity	Certificate (STCW reg.)	Number	Particulars
Master		1	
Rating deck		1	
Rating		2	

For conditions table II see page 3

Note II:

All officers shall be in the possession of a Dutch certificate of competency for sailing vessels or an endorsement, to be in compliance with the Dutch manning act.

Table III

Grade / capacity	Certificate (STCW-reg.)	Number	Particulars
Master		1	
Rating deck		1	

For conditions table III see page 3

Note III:

All officers shall be in the possession of a Dutch certificate of competency for sailing vessels or an endorsement, to be in compliance with the Dutch manning act.

Page 3 of 5

SI Vessel number :
34046

Certificate number:
4246/2010

Conditions:

GENERAL:

Prior sailing master shall record in the ship's logbook which condition is applicable for each voyage.
Non-continuous sailing: a voyage of maximum 12 hours.

One of the officers forming part of a navigational watch shall be in possession of a General Radio Operator Certificate. All other officers forming part of a navigational watch shall be in possession of a Restricted Radio Operator Certificate.

The Master shall be in possession of a medical training unlimited (EC Directive 92/29/EC).

The officers and crew have dispensation for the for the following trainings, as applicable:

- advanced fire fighting
- crowd management
- additional safety training
- crisis management and human behaviour training

At least one crewmember shall be in possession of proficiency in survival craft.
Master and officers have the proficiency in survival craft included in the Dutch certificate of competency for sailing vessels.

Every liferaft, needed for the evacuation of 100% of the total persons on board, should be handled by a crewmember in possession of a Basic Safety Certificate.

TABLE I (Valid when sailing continuous):

***Special Purpose Ship Safety Certificate*:**
No additional crew required.

***Certificate of Seaworthiness*:**
No additional crew required.

***Safety Certificate 2009/45 (former 98/18/EC)*:**
When the number of passengers is more than 36, then an additional "Rating deck" shall be added.

TABLE II (Valid when sailing non-continuous):

***Special Purpose Ship Safety Certificate*:**

- 1) The two "Ratings" may be replaced by special personnel at the Master's discretion.
- 2) When the number of special personnel is 36 or less no additional crew is required.
- 3) When the number of special personnel is more than 36, then an additional "Rating deck" shall be added.

***Certificate of Seaworthiness*:**

- 1) The two "Ratings" may be replaced by passengers if at the Master's discretion these are capable of fulfilling the duties of those two "Ratings".

***Safety Certificate 2009/45 (former 98/18/EC)*:**

- 1) When the number of passengers is 36 or less, the two "Ratings" may be replaced by passengers if at the Master's discretion these are capable of fulfilling the duties of those two "Ratings".
- 2) When the number of passengers is more than 36, the two "Ratings" shall not be replaced by passengers.

TABLE III (Additional):

Valid when used as motorvessel only, when sailing without passengers.

The crew shall be relieved from the ship within a period of 12 continuous hours

Page 4 of 5

SI Vessel number :
34046


Certificate number:
4246/2010

This certificate does not exempt the master from his obligation to request for additional crew when actual working circumstances require this (art. 12 Manning Act (Zeevaartbemanningswet)). It is the obligation of the shipsmanager to enable the master to fulfil his obligations (art. 3, 12, 32 and 60 Manning Act (Zeevaartbemanningswet)).

This document remains valid until: 01-05-2014

Issued at Rotterdam, 20-04-2010

**The Inspector general Transport and Water Management Inspectorate,
on his behalf,**


H. Bosman-Koch

TRADING AREAS	
<i>Code</i>	<i>Description</i>
1	Unrestricted
2	(200) Coastal waters, whereby the distance to the nearest port and the offshore distance does not exceed 200 nautical miles.
3	(30) Coastal waters whereby the offshore distance does not exceed 30 nautical miles and the sailingtime from safe harbour or anchorage shall be within 6 hours.
4	(30) Coastal waters whereby the offshore distance does not exceed 30 nautical miles and the sailingtime from the port of operation, mentioned on the safe manning certificate, shall be within 12 hours and shall not be more than 6 hours from a port of refuge.
5	(15) Coastal waters whereby the offshore distance does not exceed 15 nautical miles and the sailingtime from safe harbour or anchorage shall be within 6 hours.
6	(15) Coastal waters whereby the offshore distance does not exceed 15 nautical miles and the sailingtime from the port of operation, mentioned on the safe manning certificate, shall be within 12 hours and shall not be more than 6 hours from a port of refuge.
7	(5) Coastal waters whereby the offshore distance does not exceed 5 nautical miles and the sailingtime from the port of operation, mentioned on the safe manning certificate, shall be within 12 hours and shall not be more than 6 hours from a port of refuge.
8	(5) Coastal waters whereby the offshore distance does not exceed 5 nautical miles and the sailingtime from safe harbour or anchorage shall be within 6 hours.
9	(KINZ) Short international voyage, in the North Sea and English Channel south of a line from Newcastle and Elbe and north of a line from Dover to Calais.
10	(KIPCHI) Poole Guernsey to Jersey v.v.
11	(GERSHAL) Over the Netherlands and German Shallows to the estuaries of the rivers Weser and Elbe.
12	Short international voyage
13	(DV) From the Vlie along the Netherlands - and German Frisian Islands to the estuaries of the rivers Weser, Elbe and Eider, through the North Baltic seacanal to the Baltic Sea as far as the line Stralsund - Trelleborg, as well as through the Sounds and the Belts to the Kattegat as far as the line Greena - Kullen.
14	(VZ, VO, VD) Vlissingen/Zeebrugge of Vlissingen/Oostende of Vlissingen/Dunkirk:
15	(I) From the estuaries of the river Eems along the low waterline at the North Sea beach of the West German Frisian Islands to the east point of Spiekeroog - Harlebuoy - lightvessel Weser - lightvessel Elbe I - and the estuary of the river Elbe to Brunsbuttel, as far as the red buoyline. The North-Baltic Sea channel - the Kielerfjord - the western Baltic sea, Belten and Sont as far as the line Greena-Kullen in the North and the line 10 sea-miles outside the Capes in the East.
16	(II) Coastal waters, 25 sea-miles out of Belgium, Netherlands and German coast from Nieuwpoort to the estuaries of the rivers Elbe and Eider, through the North-Baltic Sea Canal to the Baltic Sea, Belten, Sont and Kattegat in the north to the line Skagen - Gothenborg, and in the east Simrishamn - east coast Bornholm Greifswald, and 25 sea-miles around Bornholm.
17	(III limited) Coastal waters, 30 sea-miles out of the European coasts of the following areas: Northsea; Northerly limited by parallel 53° N and Southerly limited from the line Dover to Calais. The Baltic Sea; the North Sea up to 63° 30' N (not more than 25 sea-miles out of the Norwegian coast) - 61° N, 1° W - the line which connects Strathie Head with Barony Point - Mull - East coast of Colonsay - Islay (Ardmore Point) - Inishoven Head (North Ireland) and from Old Head of Kinsale (South Ireland) to 48° N, 6° W (about 25 sea-miles west from Pointe du Raz) to South Bank of Gironde (45° 30' N, 2° 3' W) and the Mediterranean Sea.
18	(3) The Baltic Sea; the North Sea up to 63° 30' N (not more than 25 sea-miles out of the Norwegian coast) - 61° N, 1° W - the line which connects Strathie Head with Barony Point - Mull - East coast of Colonsay - Islay (Ardmore Point) - Inishoven Head (North Ireland) and from Old Head of Kinsale (South Ireland) to 48° N, 6° W (about 25 sea-miles west from Pointe du Raz) to South Bank of Gironde (45° 30' N, 2° 3' W) and the Mediterranean Sea.
19	Short international voyage. North Sea and English Channel Service between limits of Newcastle to River Elbe and Dover to Calais. English Channel Service between limits of Dover to Calais and Ile d'Quessant to Isles of Scilly. Irish Sea Service, between the limits of Cork to Isles of Scilly and Ratin Island to Mull of Kintyre.

14.4 Certificate of Seaworthiness

Page 1 of 5

SI Vessel number:
5316

Certificate number:
3521/2008



CONCEPT

The Netherlands

CERTIFICATE OF SEAWORTHINESS FOR THE TRADING AREA:

16*

Including the German Wad ltd by the isle of Halligan, the Eider, the isle of Pellwort etc. until and including the south part of Sylt

7 on the Beaufort scale

Taking into account that the vessel is equipped for GMDSS Sea Area:

A1

NO MORE PERSONS ALLOWED THAN:

27

IN THE NAME OF HER MAJESTY THE QUEEN OF THE NETHERLANDS
issued under the provisions of the Shipping Act.

Name of Ship	Distinctive letters	IMO Number:
SKYLGE	PHLS	
Port of Registry	Gross tonnage	Year of build
ENKHUIZEN	108	1910

Length in metres as defined in Article 2(1)1 Annex 1, Ships Order 1965: 29,3

Propulsion power of main propulsion machinery in kW: 96

Date of major conversion: 29-06-1989

The Head of the Shipping Inspectorate certifies:

that abovementioned ship has been duly surveyed in accordance with the provisions of article 8 of the Ships Order, 1965, and that the survey showed that the ship in all respects complied with the applicable requirements of that order.

On account of which he has issued this Certificate which remains in force as long as the requirements of the Ships Order are complied with and ultimately until: 31-12-2012

Completion date of the survey on which this certificate is based: 25-03-2008

Issued at Rotterdam, 01-04-2008 under number: 3521/2008

The Head of the Shipping Inspectorate
on his behalf,

*) Refer for description of Trade Area to Annex 1

Model CVD-B 26.07.2002 pci/kh/ev
Sectie(s): KV