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

Investigation Report 293/05

Serious Marine Casualty

Stranding of the Traditional Vessel "ATLANTIC" on 3 August 2005 in the Peenestrom at Buoy KR 11

15 May 2006

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

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

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1 Summary of the marine casualty

On a day trip from the port of Peenemünde, the Traditional Vessel ATLANTIC carrying 31 persons stranded on the Knaakrücken outside the navigation channel at buoy KR 11 on 3 August 2005. The vessel was unable to come free under its own engine power and was then towed free by the Rescue Cruiser FRITZ BEHRENS. There were no personal injuries, and in the port of Peenemünde divers examined the vessel but did not ascertain any structural damage to the hull.

2 Scene of the accident

Nature of the incident: Serious marine casualty, stranding of the vessel
Date/Time: 3 August 2005, approx. 13:30 h CEST[1]
Location: Peenestrom, Baltic Sea
Latitude/Longitude: φ 54°09.8'N λ 013°44.8'E

Section from Chart 3007, Federal Maritime and Hydrographic Agency

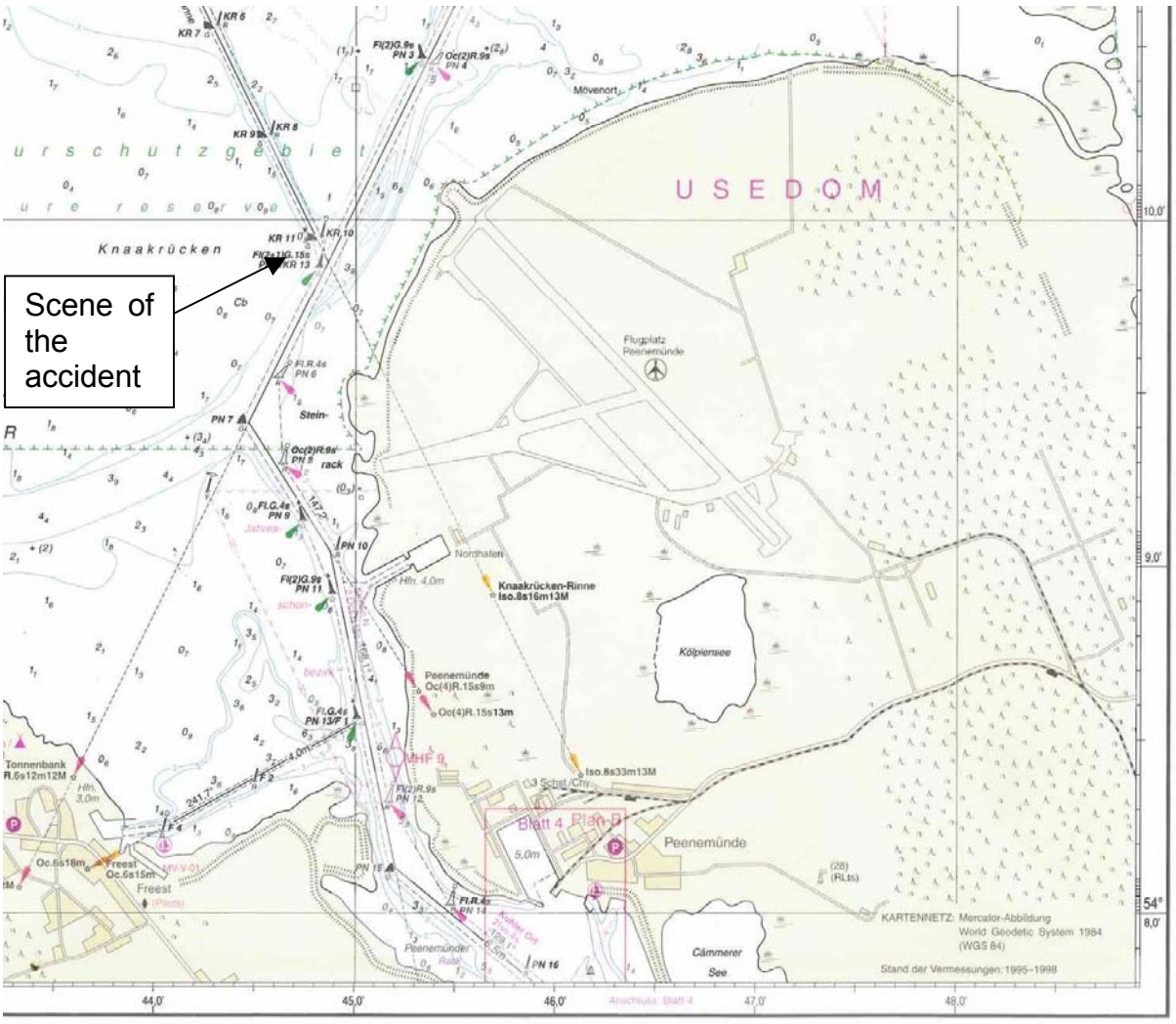


Figure 1: Chart

[1] All times CEST - Central European Summer Time

3 Vessel particulars

3.1 Photo

Figure 2: Photo of vessel

3.2 Particulars

Name of vessel:	ATLANTIC
Type of vessel:	Traditional Vessel
Nationality/Flag:	German
Port of Registry:	Bremen
Call sign:	DJRN
Year built:	1871
Building yard/location:	Norddeutsche Schiffbau AG, Kiel
Licence:	GSHW / See-BG
Length over all:	29.00 m
Hull length according to Safety Certificate:	21.22 m
Width over all:	5.05 m
GRT:	57.44 GRT
Draft at the time of the accident:	3.20 m
Engine rating:	160 hp
Main engine:	Deutz
Speed:	10.5 kn
Sail area:	245 m²
Hull material:	Transverse framing construction, riveted steel
Number of crew:	3

3.3 History of the vessel

The oldest official documents were found in the files of the Federal Maritime and Hydrographic Agency (BSH). According to these documents the screw motor vessel/screw steam tug was first surveyed by the Sea Vessel Surveying Office on 10 April 1947. At that time the year of construction and building yard were not known. The vessel had two masts and a steadying sail with an area of 55 m² and a built-in 120 hp two-cylinder Jastram marine engine. At the time of the first survey the vessel was lying at the Stader Schiffswerft yard under the name Fishing Cutter FRIESLAND for the purpose of conversion. It was owned by a chemical factory in Hamburg. A planned re-naming as GÜNTHER after the conversion did not take place.

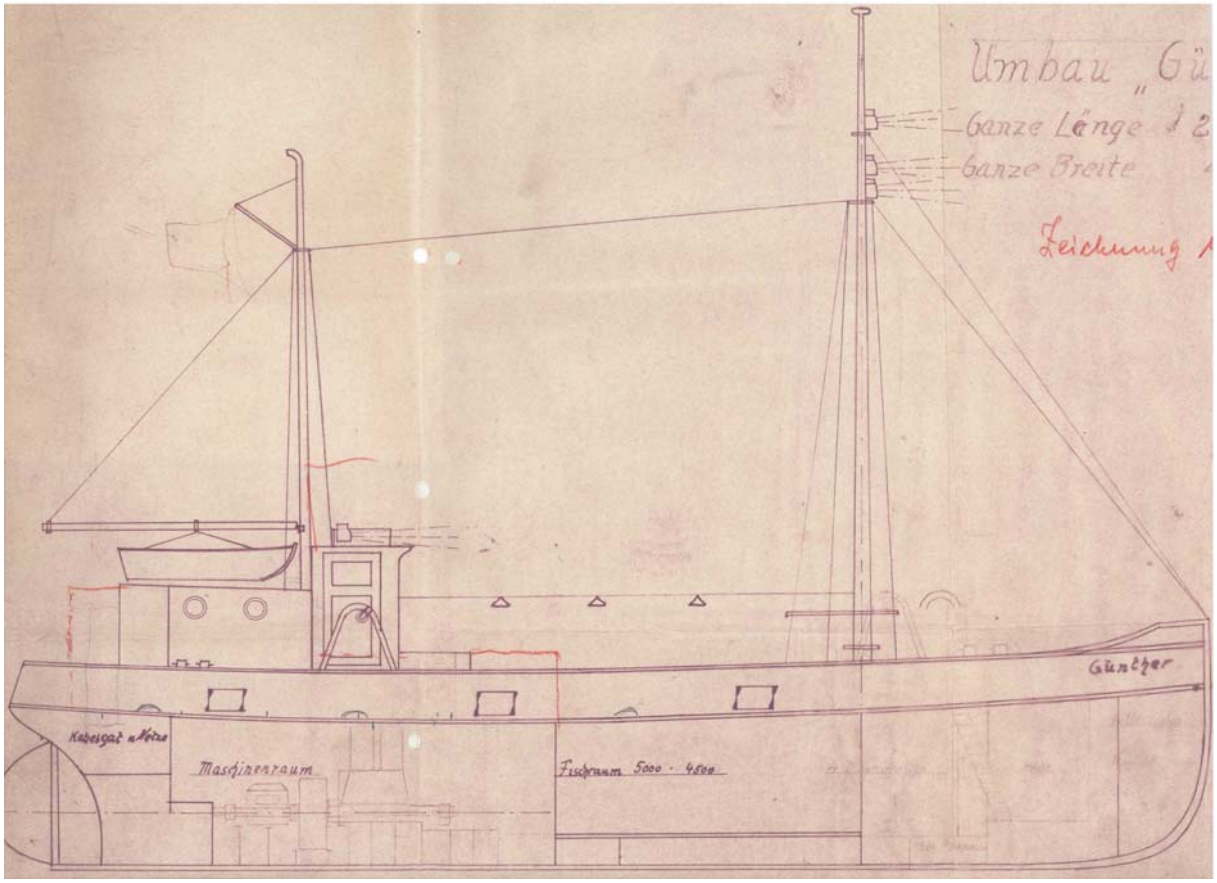


Figure 3: General Arrangement Drawing of 1947

The vessel was re-named as ATLANTIC in February 1951, as BIOMARIS ATLANTIC in June 1956, as ATLANTIC TRAMP in October 1982, and as ATLANTIC in April 1992, partly in connection with changes of owner.
In the second tonnage certificate the building yard is named as Norddeutsche Schiffsbau AG and the year of construction as 1871. It was not possible to determine when the current 160 hp Deutz diesel engine was installed.
According to the information supplied by the owner, the vessel was built as a two-masted gaff ketch at Norddeutsche Schiffbau AG in Kiel-Gaarden on behalf of Kaiser Wilhelm II in the year 1871. The vessel was reportedly deployed as a survey vessel

of the Navy and later as a freight sail boat. From 1952 onwards the vessel was operated as a water tanker off Heligoland.
The present owner acquired the vessel in 1982 for the scrap price of DM 45,000. At that time the vessel was used as a pure motor vessel without any auxiliary sails. Over a relatively long period the vessel was converted to a gaff ketch. According to the information supplied by the owner, altogether over DM 1.5 million were invested in the vessel.
The vessel is used by the sole owner as a traditional vessel without any separate operating association.

3.4 Licence at the time of the accident

At the time of the accident the vessel had a safety certificate for traditional vessels in accordance with Paragraph 1.1 of the Safety Guideline for Traditional Vessels, valid up to 30 June 2007. This certificate had been issued by the See-BG (Marine Insurance and Safety Association) on 9 January 2003. The vessel was licensed as a sailboat of vessel group A for voyages in coastal waters for a maximum of 12 persons on board.

4 Course of the accident

4.1 Reason for the voyage

On 3 August 2005 the Traditional Vessel ATLANTIC was out on a day trip with 31 persons on board, on the way from the port of Peenemünde to the Greifswalder Oie. There were 28 to 29 passengers on board (see 4.2) who had been canvassed in the port of Peenemünde. A voyage fee was levied for this day trip. The names of the persons on board were not recorded.

4.2 Qualifications of the crew

The vessel was skippered by a 64 year old skipper "A" who held a sport offshore skipper's certificate, dated 19 November 2001. The helmsman "B" named by the skipper "A" as second crew member did not present any qualification and stated that at the time of the accident he was on board not as helmsman but as a passenger. The third crew member was stated as the boatswain "C". This person was unable to present any Pleasure Craft Skipper's Licence (power) either and stated that he had been assigned as cook.

4.3 Course of the voyage according to information supplied by the skipper

The vessel left Peenemünde at noon under engine power and with the mizzen-sail set. The skipper deployed as helmsman a passenger, no longer known to him by name, but who had been on board already the day before and reportedly held a Pleasure Craft Skipper's Licence (power). The vessel was steered from the exterior steering-stand on the aft deck and no lookout was appointed. While the skipper was on deck/in the toilet located on the main deck, the vessel passed the green navigation channel buoy PN5/KR 13 on the wrong side. At a speed of approx. 7 kn the vessel stranded outside the navigation channel at buoy KR 11, on the Knaakrücken, at about 13.30 h. The chart shows large stones for this area. According to the information supplied by the skipper and the Water Police, however, there was only sandy ground directly at the point of stranding. A leisure craft sounded the depths round the vessel as almost 2 m everywhere. The draft of the ATLANTIC on an even keel was stated as 3 m. After the skipper had tried in vain for about 2 hours to free the vessel again under its own engine power, the vessel was towed free by the Rescue Cruiser FRITZ BEHRENS at approx. 15.40 h. In view of the travel time then still available, the vessel continued to the island of Ruden and was back in Peenemünde without any further problems at approx. 17.00 h. The Water Police did not issue an detention order until the next day, and this was then only suspended again after the underwater vessel had been inspected by an expert from the Water Police. During this inspection only minor paint damage and no essential denting or loose rivets were found. The stranding did not cause any visible structural damage to the hull and the plating.

4.4 Wind, sea and current

At the time of the accident a north-westerly wind was blowing with a force of approx. 2 Bft. Visibility conditions were good with slight clouding and there was a slight sea with a slow running current.

5 Investigation

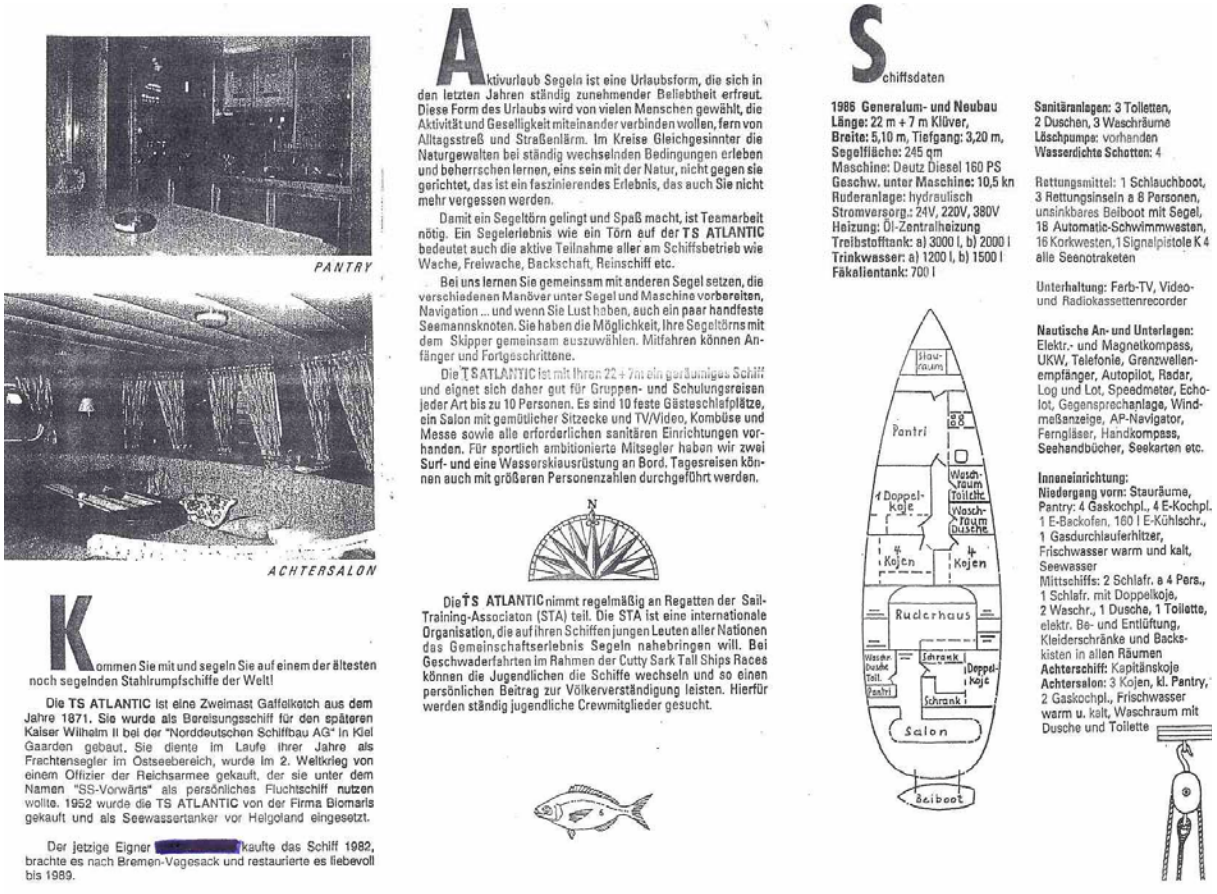
The BSU was notified directly on the day of the accident by the Water Police Directorate Mecklenburg-Western Pomerania.

5.1 Licence as Traditional Vessel

The licensing conditions for traditional vessels are regulated in the Safety Guideline for Traditional Vessels (Guideline in accordance with § 6 Section 1 of the Vessel Safety Regulation). The See-BG (Marine Insurance and Safety Association) decides in cooperation with the Joint Commission for Historical Water Craft (GSHW) on the basis of the documents submitted by the applicant and for ships with fewer than 80 persons on board also on the basis of an expert opinion by an expert in the field of traditional vessels, whether the prerequisites for issuing a safety certificate for the operating form "Traditional Vessel" are fulfilled. The party responsible under the maritime safety law, for example the operator or the owner, must furthermore declare that he will operate the traditional vessel solely for ideal purposes, to cultivate maritime traditions, for social and comparable purposes, and not for the purpose of sustainable profit-making. If the written application is made directly to the See-BG, the See-BG can make its own findings and inspections for vessels with fewer than 80 persons on board before issuing the safety certificate. These findings or inspections by the See-BG can be dispensed with if the application for a licence for a traditional vessel is forwarded to the See-BG via the GSHW.
"An examination committee of the GSHW will review the applications for plausibility and then forward them to the See-BG with the instruction that the certificate be issued. The See-BG issues the certificate in its capacity as federal ship safety authority without any further subsequent examinations of its own."[2]

The owner of the ATLANTIC chose the procedure of a plausibility examination by the GSHW for licensing as a traditional vessel, and on behalf of the owner an expert opinion was issued for the first time in June 2002 by a publicly appointed and sworn expert for the field of traditional vessels. On the basis of this expert opinion the vessel is classified in Vessel Group A, licensed number of persons up to 12, and hull length less than 25 m. In addition the expert certified that on the grounds of the type of construction, the fittings and the safety equipment, with certain restrictions and prerequisites, safe performance of day trips with up to 30 persons on board was admissible.
The owner submitted this expert opinion to the GSHW for examination in October 2002 together with a brochure on the use of the vessel and a declaration that the vessel would be operated in the meaning of the Safety Guidelines for Traditional Vessels under German flag and not for the purpose of sustainable profit-making.

[2] Information sheet of the GSHW, dated 23 May 2001 about Safety Certificates for Traditional Vessels



PANTRY

ACHTERSALON

Kommen Sie mit und segeln Sie auf einem der ältesten noch segelnden Stahlrumpfschiffe der Welt!

Die TS ATLANTIC ist eine Zweimast Gaffelkotch aus dem Jahre 1871. Sie wurde als Bereisungsschiff für den späteren Kaiser Wilhelm II bei der "Norddeutschen Schiffbau AG" in Kiel Gaarden gebaut. Sie diente im Laufe ihrer Jahre als Frachtensegler im Ostseebereich, wurde im 2. Weltkrieg von einem Offizier der Reichsarmee gekauft, der sie unter dem Namen "SS-Vorwärts" als persönliches Fluchtschiff nutzen wollte. 1952 wurde die TS ATLANTIC von der Firma Biomaris gekauft und als Seewassertanker vor Helgoland eingesetzt.

Der jetzige Eigner [redacted] kaufte das Schiff 1982, brachte es nach Bremen-Vegesack und restaurierte es liebevoll bis 1989.

Aktivurlaub Segeln ist eine Urlaubsform, die sich in den letzten Jahren ständig zunehmender Beliebtheit erfreut. Diese Form des Urlaubs wird von vielen Menschen gewählt, die Aktivität und Geselligkeit miteinander verbinden wollen, fern von Alltagsstreß und Straßenlärm. Im Kreise Gleichgesinnter die Naturgewalten bei ständig wechselnden Bedingungen erleben und beherrschen lernen, eins sein mit der Natur, nicht gegen sie gerichtet, das ist ein faszinierendes Erlebnis, das auch Sie nicht mehr vergessen werden.

Damit ein Segeltörn gelingt und Spaß macht, ist Teamarbeit nötig. Ein Segelerlebnis wie ein Törn auf der TS ATLANTIC bedeutet auch die aktive Teilnahme aller am Schiffsbetrieb wie Wache, Freiwache, Backschaft, Reinschiff etc.

Bei uns lernen Sie gemeinsam mit anderen Segel setzen, die verschiedenen Manöver unter Segel und Maschine vorbereiten, Navigation ... und wenn Sie Lust haben, auch ein paar handfeste Seemannsknoten. Sie haben die Möglichkeit, Ihre Segeltörns mit dem Skipper gemeinsam auszuwählen. Mitfahren können Anfänger und Fortgeschrittene.

Die TS ATLANTIC ist mit ihren 22 + 7m ein geräumiges Schiff und eignet sich daher gut für Gruppen- und Schulungsreisen jeder Art bis zu 10 Personen. Es sind 10 feste Gästeschlafplätze, ein Salon mit gemütlicher Sitzecke und TV/Video, Kombüse und Messe sowie alle erforderlichen sanitären Einrichtungen vorhanden. Für sportlich ambitionierte Mitsegler haben wir zwei Surf- und eine Wasserskiausrüstung an Bord. Tagesreisen können auch mit größeren Personenzahlen durchgeführt werden.

Die TS ATLANTIC nimmt regelmäßig an Regatten der Sail-Training-Association (STA) teil. Die STA ist eine internationale Organisation, die auf ihren Schiffen jungen Leuten aller Nationen das Gemeinschaftserlebnis Segeln nahebringen will. Bei Geschwaderfahrten im Rahmen der Cutty Sark Tall Ships Races können die Jugendlichen die Schiffe wechseln und so einen persönlichen Beitrag zur Völkerverständigung leisten. Hierfür werden ständig jugendliche Crewmitglieder gesucht.

Schiffsdaten

1986 Generalum- und Neubau
Länge: 22 m + 7 m Klüver,
Breite: 5,10 m, Tiefgang: 3,20 m,
Segelfläche: 245 qm
Maschine: Deutz Diesel 160 PS
Geschw. unter Maschine: 10,5 kn
Ruderanlage: hydraulisch
Stromversorg.: 24V, 220V, 380V
Heizung: Öl-Zentralheizung
Treibstofftank: a) 3000 l, b) 2000 l
Trinkwasser: a) 1200 l, b) 1500 l
Fäkalientank: 700 l

Sanitäranlagen: 3 Toiletten, 2 Duschen, 3 Waschräume
Löschpumpe: vorhanden
Wasserdichte Schotten: 4

Rettungsmittel: 1 Schlauchboot, 3 Rettungsinseln a 8 Personen, unsinkbares Beiboot mit Segel, 18 Automatic-Schwimmwesten, 16 Korkwesten, 1 Signalpistole K 4 alle Seenotraketen

Unterhaltung: Farb-TV, Video- und Radiokassettenrecorder

Nautische An- und Unterlagen: Elektr.- und Magnetkompass, UKW, Telefonie, Grenzwellenempfänger, Autopilot, Radar, Log und Lot, Speedmeter, Echolot, Gegensprechanlage, Windmeßanzeige, AP-Navigator, Ferngläser, Handkompass, Seehandbücher, Seekarten etc.

Inneneinrichtung:
Niedergang vorn: Stauräume, Pantry: 4 Gaskochpl., 4 E-Kochpl. 1 E-Backofen, 160 l E-Kühlschr., 1 Gasdurchlauferhitzer, Frischwasser warm und kalt, Seewasser
Mittschiffs: 2 Schlafr. a 4 Pers., 1 Schlafr. mit Doppelkoje, 2 Waschr., 1 Dusche, 1 Toilette, elektr. Be- und Entlüftung, Kleiderschränke und Backskisten in allen Räumen
Achterschiff: Kapitänskoje
Achtersalon: 3 Kojen, kl. Pantry, 2 Gaskochpl., Frischwasser warm u. kalt, Waschraum mit Dusche und Toilette

Figure 4: Brochure with "Concept for use"

On the basis of these documents the examination commission of the GSHW forwarded the owner's application to the See-BG with the recommendation that the inspection certificate be issued at the end of December 2002. The See-BG issued the Safety Certificate for Traditional Vessels of Vessel Group A with 12 persons on board on 9 January 2003. The owner did not make any separate application for more persons on board, for example during day trips, and thereupon no exceptional permit was issued either. The legal status of such day trips was not yet clarified up to May 2003, as the Safety Guideline for Traditional Vessels is oriented to unrestricted sea operation. Day trips, especially when the number of persons is to exceed the admissible number of persons for the vessel group, are not regulated separately in the Safety Guideline for Traditional Vessels.

When the skipper was questioned by the BSU, he stated that he was of the opinion that altogether 31 persons were allowed to be on board, as the expert in the field of traditional vessels that he had commissioned had certified in a list of equipment for the safety expert opinion that safety equipment for a total number of 31 persons was provided for on board.

5.2 Crew

According to the regulation on the acquisition of the sport inshore and sport offshore skipper's certificates and the manning of traditional vessels (Sport Skipper Certificate Regulation), the minimal nautical crew for the coastal waters traffic of a traditional vessel with a hull length of 15 to 25 m is that the vessel's command must hold a Pleasure Craft Skipper's Licence (power) Sea with additional Sport Skipper Certificate.
Nothing is specified for the technical crew for sailing in coastal waters. One member of the crew must additionally have sufficient knowledge of the engine for this hull length in the case of worldwide traffic.
Manning with further staff to operate the vessel is not specified anywhere for traditional vessels. The sufficient number and suitability of the ship's crew lies solely in the sphere of responsibility of the owner/operator.
The persons named by the skipper were by their own account not on board as helmsman or deckhand. Accordingly the ATLANTIC was only crewed by one crew member, the responsible skipper.

5.3 Inspection of the vessel

Figure 5: ATLANTIC under sail, photo courtesy of owner

The Traditional Vessel ATLANTIC is rigged as a 2-mast gaff ketch. In addition to the main sail and mizzen-sail, the vessel runs 3 fore sails and two square sails. The sails are operated from the main deck and the elevated aft deck.
The vessel can be steered from the wheelhouse and from the elevated aft deck with a manual hydraulic steering system. Both steering-stands are switched parallel and neither of them take precedence. A manual hydraulic steering system can

additionally be run via a hydraulic pump that can be switched in using an auto-pilot or joystick. The visibility from both wheelhouses forward was good.
The 160 hp four-cylinder main engine could only be started from the engine room. The engine is started with compressed air and the starting operation takes some time, as some preliminary works such as opening the sea valves and preliminary pumping of the oil pressure is necessary. For ongoing maintenance it is necessary for the main engine and the attached cooling water pumps to be oiled every 3 hours.
One life-raft for 6 persons and one for 25 persons with due maintenance date June 2005 were on board.
An up to date BSH chart was reportedly on board at the time of the accident. In the wheelhouse there was additionally a computer with an electronic chart that was only used for practice purposes and for monitoring, not for navigation.

6 Analysis

6.1 Marine casualty

The marine casualty is attributable to insufficient manning with qualified nautical staff and/or mariners.
The skipper had left the aft steering-stand to go to the toilet; an unknown passenger was set at the helm and no lookout had been appointed. There had been no clear distribution of tasks.

6.2 Operating form Traditional Vessel

As a reaction to several incidents and accidents with former professional vessels crewed with holders of Pleasure Craft Skipper's Licence (power), and to the findings of German authorities (Seeämter) and courts examining non-naval sea accidents, the Federal Ministry for Transport, Department of Shipping Traffic, first issued the Directive of § 6 of the Shipping Safety Regulations to Improve the Safety of Traditional Vessels on 14 September 1991. According to this, since 1991 it has been possible to operate former professional vessels (merchantmen, trading vessels) and public authority vessels in the operating form "traditional vessel". The manning with nautical and technical staff was also regulated for the first time for these vessels that are no longer used commercially. This Directive was constantly supplemented in the spirit of achieving safety partnership and with regard to the manning. The most recent amendment was made on 6 August 2005 with the 12th Regulation to amend Sea Traffic Regulations.
The term Traditional Vessel was thereupon newly specified in the regulation on the acquisition of sport inshore and sport offshore skipper's certificates and the manning of traditional vessels (Sport Skipper's Certificates Regulation):

Traditional vessels in the meaning of this regulation are historical water craft or their copies up to a hull length[3] of 55 metres, for which public and in particular cultural interest exists in maintaining and presenting them under way and whose restoration and operation in accordance with the rules and skills of traditional seamanship serve to cultivate maritime heritage, and for which a safety certificate on the basis of the Safety Guideline for Traditional Vessels has been issued under § 6 Para.1 No.3 of the Maritime Safety Regulation in the relevant valid version.

According to this, operating a traditional vessel as a training ship, for sports and high-sea angling tours, nautical advanced training and training of skippers, diver training/diving for wrecks, training for radio operator certificates, shopping trips, as a conference ship or the like, serves the relevant sporting/commercial interest, but not the cultivation of maritime tradition and is accordingly not admissible or does not conform with the guidelines for the operating form of "Traditional Vessel".

[3] Hull length according to this Guideline = length between the outermost point of the stem post and stern post

This was also confirmed by the First Senate of the Hamburg Higher Administrative Court in its judgement of 21 April 2005, Ref.: 1Bf 74/04. The leading sentence in this judgement reads:

1. *A water craft similar to a museum vessel does not serve exclusively ideal purposes in the meaning of the rules on traditional vessels simply because the revenues achieved through its operation serve for its maintenance. Instead, the operation itself must serve ideal purposes. Purely commercial activities that are not substantially connected with the cultivation of tradition are only compatible with the operation of a traditional vessel, if at all, by way of exception if they play a very subordinate role in the use of the vessel.*

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2. *Commercial use in the meaning of § 2 Para. 5 No. 4c SchSV (Maritime Safety Regulation) 1986 (Special Craft) does not presuppose that profit is made. It is sufficient for the service, such as angling trips, to be made accessible with a certain regularity and sustainability to an unrestricted group of persons in return for payment.*

When applying for the Safety Certificate for the vessel ATLANTIC, the intended use was stated as youth sailing trips and experience sailing. The brochure submitted with the application indicates a different use as operator concept and should have been investigated in more detail during the plausibility review by the GSHW. For example, "Active holiday under sail, good for groups and coaching trips, co-sailors with sporting ambitions can use surfing and water ski equipment" is offered. On the current Internet page of the Traditional Vessel ATLANTIC and via chartering agencies, the vessel is additionally promoted with family trips for a wide variety of occasions (weddings, excursions ...) and company trips, e.g. for staff training, motivation, intensive programmes, advertising purposes etc. The prices for such day trips including catering per person are € 77.00.
According to the findings of the BSU, the ATLANTIC is operated at least with a certain regularity as passenger vessel with passenger shipping and in this respect does not comply with the guidelines for the operating form "Traditional Vessel".

6.3 Safety Certificates for Traditional Vessels

According to Paragraph 1.1 of the Safety Guideline for Traditional Vessels, traditional vessels are operated with a Safety Certificate for Traditional Vessels. This Safety Certificate that as of 15 April 2001 every traditional vessel must have is generally issued for unrestricted sea operation for a certain number of persons on board. It is recorded in the certificate to which of the three vessel groups a traditional vessel belongs - Group A for up to 12 persons, Group B for up to 50 persons or Group C with more than 50 persons on board. Furthermore, it is possible through further permits to obtain a Safety Certificate for Traditional Vessels for day trips in order to take more persons on board than are stated in the actual Safety Certificate for Traditional Vessels. A distinction is made here between an Additional Permit and an Exceptional Permit for the Safety Certificate. The Additional Permit relates to day trips in which the vessel remains within its vessel group (A, B or C), despite the higher number of persons on board. The Additional Permit can be issued on the

basis of the safety expert opinion if the number of persons in unrestricted sea operation is lower than the number of persons that can be accommodated safely on board below deck, e.g. due to the number of bunks available,. These vessels satisfy the safety requirements for traditional vessels with the number of persons stated in the Additional Permit.

An Exceptional Permit to the Safety Certificate is issued on application by the operator if the vessel leaves its vessel group as a result of the higher number of persons on board. The current permit practice for this exceptional permit is that with vessels of Group A up to 30 persons, and with vessels of Group B up to 79 persons may be carried. So that these vessels do not have to satisfy the equipment requirements for the next higher vessel group, the Exception Permit is additionally restricted to trips in up to a maximum of five recognised maritime events a year. These events take place in port or close to a port under controlled conditions. That is why from case to case if the safety expert opinion confirms this, and only within this scope, it is possible to issue an Exception Permit. Issuing of these Exception Permits for a maximum of five maritime events to be named in advance represents an innovation by contrast with permit practice in professional shipping, however. A period of validity coupled to a restriction to a fixed number of events cannot be explained with the original idea behind the guideline, in other words improving the safety of traditional vessels,.

In both permit cases the safety of the traditional vessels is ensured via certain operating requirements (months of May to September, tours between sunrise and sunset, lasting for a maximum of 10 hours, sea waters, wave height and wind force) as well as conditions (protected stay below deck, life jackets plus 10% reserve and place in life boat).

The Additional Permits and Exception Permits to the Safety Certificate are not described in the Safety Guideline for Traditional Vessels. The revenues for maintaining larger vessels over 15 metres from trips that are operated with only 12 persons on board in Vessel Group A and 50 persons on board in Vessel Group B rarely cover the necessary costs of operating these vessels. The See-BG and GSHW thereupon came to appropriate agreements regarding the permits in order to allow the operators of traditional vessels to tap additional sources of income.

At the time of the accident the Water Police counted 31 persons on board, although the Traditional Vessel ATLANTIC only had a Safety Certificate for 12 persons on board. An Exception Permit to the Safety Certificate for carriage of more than 12 persons was only issued after the accident for altogether 30 persons on board, with the additional limitation of trips in connection with three maritime events in the year 2005.

6.4 Manning of traditional vessels

The manning of traditional vessels was initially regulated as Annex 3 to the Guidelines in the meaning of § 6 of the Ships Safety Regulation to improve the safety of traditional vessels. At present the manning of traditional vessels is specified in the

Sport Skipper's Certificate Regulation under Appendix 4 (to § 11 Para. 2), regular manning of traditional vessels with holders of nautical and technical certificates of competence.

For vessels with a length between 25 m and 55 m, there must be at least two holders of Inshore or Offshore Sport Skipper's Certificates with an additional entry in accordance with § 1 Para. 5, § 10 Para. 2 on board for the nautical crew. With this additional entry that must be documented in the form of evidence of experience, the necessary capability for running a traditional vessel is acquired. The evidence of experience for the certification of capability of qualification as skipper on traditional vessels can be obtained by service times on board or passage times on traditional vessels. This evidence of experience is divided up into 58 subject areas from the field of seamanship, bridge and watch duty, as well as safety on traditional vessels. Altogether 293 individual, practical and training evidence vouchers must be examined before an examining commssion.

Traditional vessels with a hull length of 15 m to 25 m must be manned by at least one holder of a Sport Skipper's Certificate or a Pleasure Craft Skipper's Licence (power) Sea with additional Sport Skipper's Certificates.

Traditional vessels with a length of less than 15 m are crewed like comparable leisure craft. In the Sport Skipper's Certificates Regulation Annex 4 it is stated e.g. in the basic principles for the small traditional vessels up to 15 m:

1. *Traditional vessels with a hull length of up to 15 metres and fewer than 25 persons on board are to be manned by holders of certificates of competence like comparable leisure craft.*

2. *Traditional vessels with a hull length of up to 15 metres and with more than 25 persons on board must be crewed in coastal waters with at least one holder of the Sport Skipper's Certificate.*

Accordingly, for traditional vessels with a length of less than 25 m, evidence of experience/an additional entry under the Sport Skipper's Certificates Regulation is not necessary. Although under certain circumstances it may be possible to carry more than 12 persons on board, these vessels have to be crewed with the holder of a certificate for leisure craft. These provisions represent an upgrading of the sailing permit for leisure craft for small traditional vessels with a length of less than 25 m by comparison with a leisure craft. A leisure craft of whatever size can only be operated with a maximum of 12 persons on board according to § 6 of the Ships Safety Regulation (SchSV). In this respect it is not explicable to what extent the ruling in § 11 of the Sport Skipper's Certificates Regulation according to which traditional vessels with a hull length of less than 15 m and carriage of up to 25 persons on board are counted as yachts can be brought into harmony with national and even international regulations.

The skipper of the ATLANTIC held the Sport Skipper's Certificate and thus the statutory specified qualification for commanding the vessel with a length of less than 25 m. It was not evident to the BSU whether further qualified mariners were on board

with consideration given to the number of passengers, the operating organisation and the expected course of the voyage.

Manning with mariners is regulated in § 11 of the Sport Skipper's Certificates Regulation. According to this the owner or operator is responsible for ensuring a sufficient number and suitability of mariners on board, taking into account the operating organisation, the intended course of the voyage and the safe operating progress.

The standard manning with holders of nautical and technical certificates of competence and other mariners is not documented in the Safety Certificate for Traditional Vessels. In an earlier maritime casualty investigation in 2003, the BSU had already recommended in its Report on Marine Casualty 49/02, sinking of the former KFK GOTLAND, that a minimum crew should be specified for each ships' type in the Safety Guideline for Traditional Vessels.

In order to be able to ensure safe shipping operation for the Traditional Vessel ATLANTIC, at least five crew members are necessary to operate the engine and the 245 m² sail area. For sailing manoeuvres, for example, in addition to the helmsman another two men are required on the fore ship and two men to operate the main and mizzen sails.

6.5 Safe vessel operation

During the survey of the Traditional Vessel ATLANTIC, the BSU ascertained that there were no stability documents on board and no sailing directions for the vessel. The owner of the Traditional Vessel ATLANTIC stated in response to questioning by the BSU that after the conversion to a two-mast ketch, no heeling test had been carried out to determine the centres of gravity of the vessel and that there were no stability documents for the ship. Although the subject marine casualty involving the Traditional Vessel ATLANTIC was not based on any stability defects, it is basically to be feared that after the conversion of the vessel, in view of the fact that 245 m² of sails are now carried instead of the original 55 m² support sail, serious casualties cannot be ruled out without an expert inspection of the stability conditions.

To prevent stability-related accidents with traditional vessels the BSU had made various recommendations in connection with the aforementioned marine casualty 49/02, including a recommendation that stability documents should be on board and that concrete requirements for stability should be set down in the Safety Guideline for Traditional Vessels. It is to be noted that by contrast with commercially used vessels and leisure craft, that are built in accordance with the specifications of classification societies, there are no stability criteria for traditional vessels such as e.g. range of stability, metacentric height or uprighting moment. The Expert Committee Sea of the GSHW published a generalised pamphlet on securing the stability of traditional vessels in response to the BSU safety recommendation in July 2004. No concrete specifications of stability criteria such as e.g. minimum range of stability, area below the curve of statical stability, or minimum metacentric height were described.

7 Safety recommendations

7.1 Owner, operator and skipper

The BSU recommends that all owners and operators of traditional vessels should take care to observe § 11 of the Sport Skipper's Certificates Regulation. In particular, the manning necessary for safe operation of the vessel with navigational and technical command personnel and sufficient manning with mariners for operating the vessel should be established and implemented.

The skippers are instructed to ensure that the responsibilities on board are clearly regulated and in particular a qualified representative of the skipper should be named before the voyage starts.

7.2 Norm maker

The BSU recommends that the Federal Ministry for Transport, Building and Urban Affairs should review the current regulations for traditional vessels with a length below 25 m to ascertain whether evidence of practical experience with an additional entry for traditional skippers in accordance with § 1 Para. 5 of the Sport Skipper's Certificates Regulation should be required for these vessels when more than 12 persons are carried.

7.3 See-BG (Marine Insurance and Safety Association) and GSHW (Joint Commission for Historical Water Craft)

The BSU recommends that the See-BG and the GSHW should examine owners and operators of traditional vessels more strictly for observance of the safety guidelines with regard to the cultivation of maritime traditions. In particular when reviewing the operator's concepts it should be ensured that the revenues obtained from the operation serve to restore and maintain the historical water craft and that the operation itself is performed for ideal purposes, e.g. to cultivate and promote the traditional skills and seamanship practised on the vessels when used for their original purpose.

The issue of Exception Permits for day trips in which a higher number of persons is carried than is admissible in the corresponding vessel group should no longer be coupled with a period of validity for a certain number of maritime events, but the current approval practice should be observed with operating requirements, equipment and safety conditions, and a sufficient and qualified crew.

The manning of traditional vessels with mariners should be specified as a function of the type of vessel, size of vessel, duration of the voyage and range of trade in addition to the regular crew in accordance with Annex 4 of § 11 Para. 2 Sport Skipper's Certificates Regulation.

The manning of traditional vessels with nautical and technical crews and with mariners should be documented in the Safety Certificate for Traditional Vessels.

The See-BG, GSHW and the Register Commission appointed in the meantime are called upon to ensure within the scope of the new version of the safety guideline for traditional vessels to improve safety on board that stability documents are available on board, especially after conversion.

The Federal Bureau of Maritime Casualty Investigation (BSU) issued the following safety recommendation on this already on 11 April 2003:

The owners, operators and skippers are requested to check whether consequences for the stability of the vessels have resulted from existing or ongoing conversion of traditional vessels by conversions with a change in the height position of the centre of gravity that can lead to endangerment of vessel, crew and other persons on board.

The See-BG and GSHW are called upon to define the stability criteria for traditional vessels so that sufficient stability is ensured throughout the whole voyage with existing freeboard and changing weather conditions in accordance with the Safety Guideline for Traditional Vessels, Annex 4.

8 Sources

- Investigations of the Water Police (WSP)
- Statements by witnesses
- Charts and vessel particulars Federal Maritime and Hydrographic Agency (BSH)
- Documents of the classification society
- Documents of the See-BG (Marine Insurance and Safety Association)
  - Accident-prevention Regulations (UVV-See)
  - Guidelines and pamphlets
  - Vessel files
- Documents of the Joint Commission for Historical Vessels (GSHW) registered association

9 Annex - Comments

According to § 15 Para. 1 Maritime Safety Investigation Law (SUG) in conjunction with § 17 Para. 2 Law Relating to the Investigation into Accidents and Incidents Associated with the Operation of Civil Aircraft (FlUUG), justified substantive comments are taken into account in the investigation report. Accordingly individual statements are reproduced below. In as far as comments deviating from the draft of the investigation report were confirmed by additional investigations by the BSU or by documents, these have been integrated into the investigation report at the appropriate places without being specially highlighted.

9.1 Comments of the skipper "A"

.....

On 4.2 Qualifications of the crew

Mr. ... ("B") named by me as helmsman has the necessary papers and has been sailing already for some years, on my vessel for 2 - 3 weeks per year.

His answer when asked why he answered as he did was that he became afraid when reading your question. This was due in particular to the mention of § 7 of the Regulation on Securing Shipping, stating that he is obliged to report all endangering incidents immediately to the BSU.
Mr. ... ("B") is over 70 years old and I can understand his fear.

Mr. ... ("C") whom I named as boatswain had already been living on the vessel for two years and participated in all voyages. He knows the vessel completely and is therefore more valuable to me than any sports sailor who may be able to present a certificate, but cannot otherwise handle the vessel.

His statement that he was employed as cook was a misunderstanding. He was simply answering what he was doing at the time of stranding and at that time he was engaged in cooking. Otherwise Mr. ... ("C) was fully integrated in the ship's operations.

I should like to mention at this point that such incidents as running aground are only to be reported in accordance with § 7 Para. 2 if damage that impairs the ship's safety etc. is sustained. This was not the case here.

Furthermore, ships falling dry at low tide in the North Sea is common practice. Nobody considers this as a maritime casualty.

I come from Bremen, in other words from the North Sea, and have fallen dry umpteen times and never had any problems with this.
Furthermore, I should not like the "Atlantic" to be considered as a commercial vessel and I should not like to be considered as a professional captain, for I am and remain a leisure skipper.

On 4.3 Course of the voyage according to information supplied by the skipper

The helmsman/passenger did have a Skipper's Certificate, but in the aftermath insufficient experience.
He said he would follow my instruction to run along the red buoys on the way out and the green buoys on the way in. After buoy PN5 he was looking for buoy PN4. He had learned that there was a red buoy next to a green buoy. He saw the thick green PN5/KR13, but no red buoy PN4. He was looking for his red buoy and believed he had found it: a green KR11 and a red KR10. However, he did not notice that these belonged to a side channel. Pleased that he had found it, he probably forgot the thick green KR13 and made for the next red buoy, KR10, and then logically stranded.
The following circumstances had a negative effect:

- *there was no red buoy next to the green buoy*
- *the helmsman was too inexperienced, and*
- *just at the time of the accident I was on the toilet on deck*

One material reason for the accident is the fact that there was no red buoy!

On 5.1 Licence as Traditional Vessel

My application for the Exception Permit of 10.06.2002 had regrettably not been processed by the GSHW so that the See-BG knew nothing of the application and I omitted to call for the Exception Permit after I did not receive any notice.
When the vessel was held in Peenemünde, all this came up. The GSHW had not processed my application, not found it at first, but then notified the See-BG that it was on hand. The See-BG thereupon issued the special permit.

On 5.3 Inspection of the vessel

The 25-person life-raft was still licensed up to the end of June.
Underway it was not possible for me to have the life-raft serviced due to lack of time, or there was no corresponding firm on site.
My supply firm in Bremerhaven told me that overdrawing the service date by two months was not a problem.

Compasses, current BSH sea charts and current electronic sea charts for navigation are always on board.

On 6.1 Maritime casualty

Viewed after the event, the helm was not manned by qualified staff, although the passenger helmsman had the legally specified papers and had steered the "Atlantic" for two hours the day before over the same stretch under my supervision.
He was irritated by the lack of a red buoy.