



**Bundesstelle für Seeunfalluntersuchung**  
**Federal Bureau of Maritime Casualty Investigation**  
Bundesoberbehörde im Geschäftsbereich des Bundesministeriums  
für Verkehr, Bau- und Wohnungswesen

**Summary  
Investigation Report**

**63/03**

1 September 2003

**Serious Marine Casualty:**

**Collision**

**Passenger Vessel SPIEKEROOG II  
with  
the Gandersum Flood Barrage**

**on 7th. March 2003**

**in the Ems maritime waterway,  
inland navigation opening**

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## 1 Summary of the marine casualty

The passenger vessel SPIEKEROOG II was proceeding along the Ems maritime waterway bound for the sea. There was thick fog and the visibility was less than 50 metres. The vessel was navigating with the help of two radars – one set at a range of 0.5 nm, the other at a range of 0.75 nm. The bridge was manned by four persons.

At approximately 8:30 h LT the passenger vessel was approaching the Gandersum flood barrage at a speed of about 6 kn. Instead of taking the main navigation opening provided for larger vessels, the passenger vessel headed for the inland navigation opening, which had a height restriction, and finally proceeded through it.

Due to the strong ebb current, the captain managed neither to stop the vessel nor carry out the relevant alterations of course in order to avoid a collision. The upper deck area of the passenger vessel SPIEKEROOG II collided with the solid bridge and gate of the inland navigation opening. The vessel proceeded through the inland navigation opening, causing considerable damage to both herself and the flood barrage.

The damaged vessel anchored at fairway buoy “82” until the river police arrived and was then accompanied by the police back to Oldersum.

Nobody was injured and no environmental pollution was caused.

## 2 Scene of casualty



Figure 1: Scene of casualty - photograph

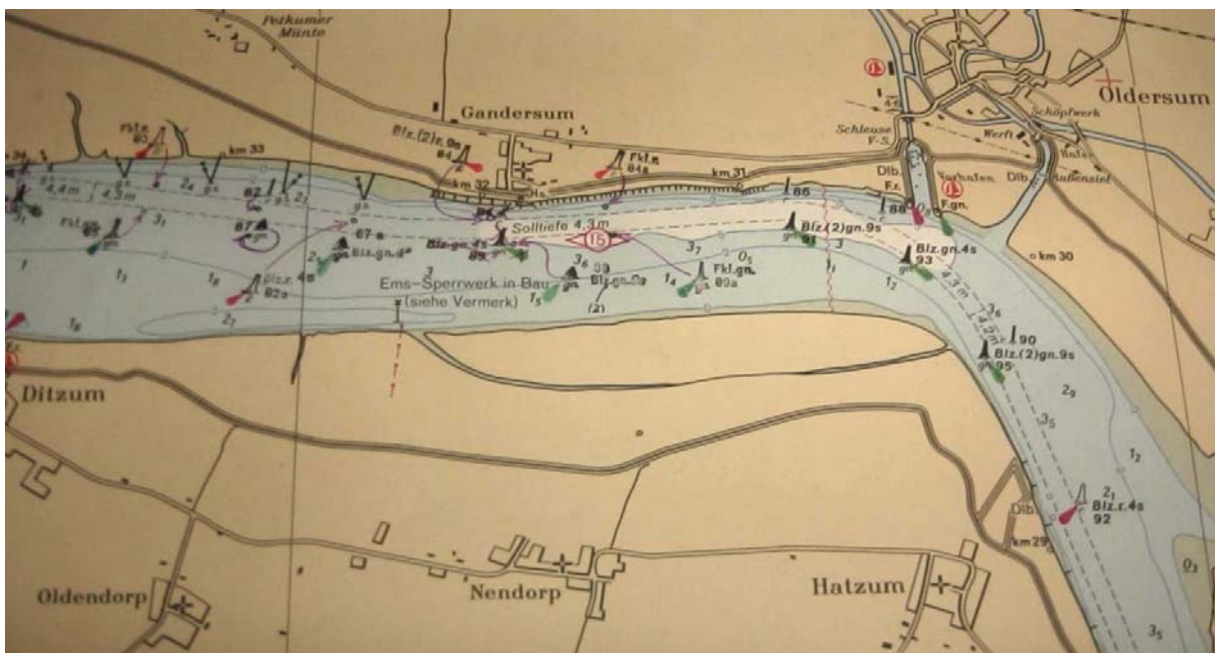
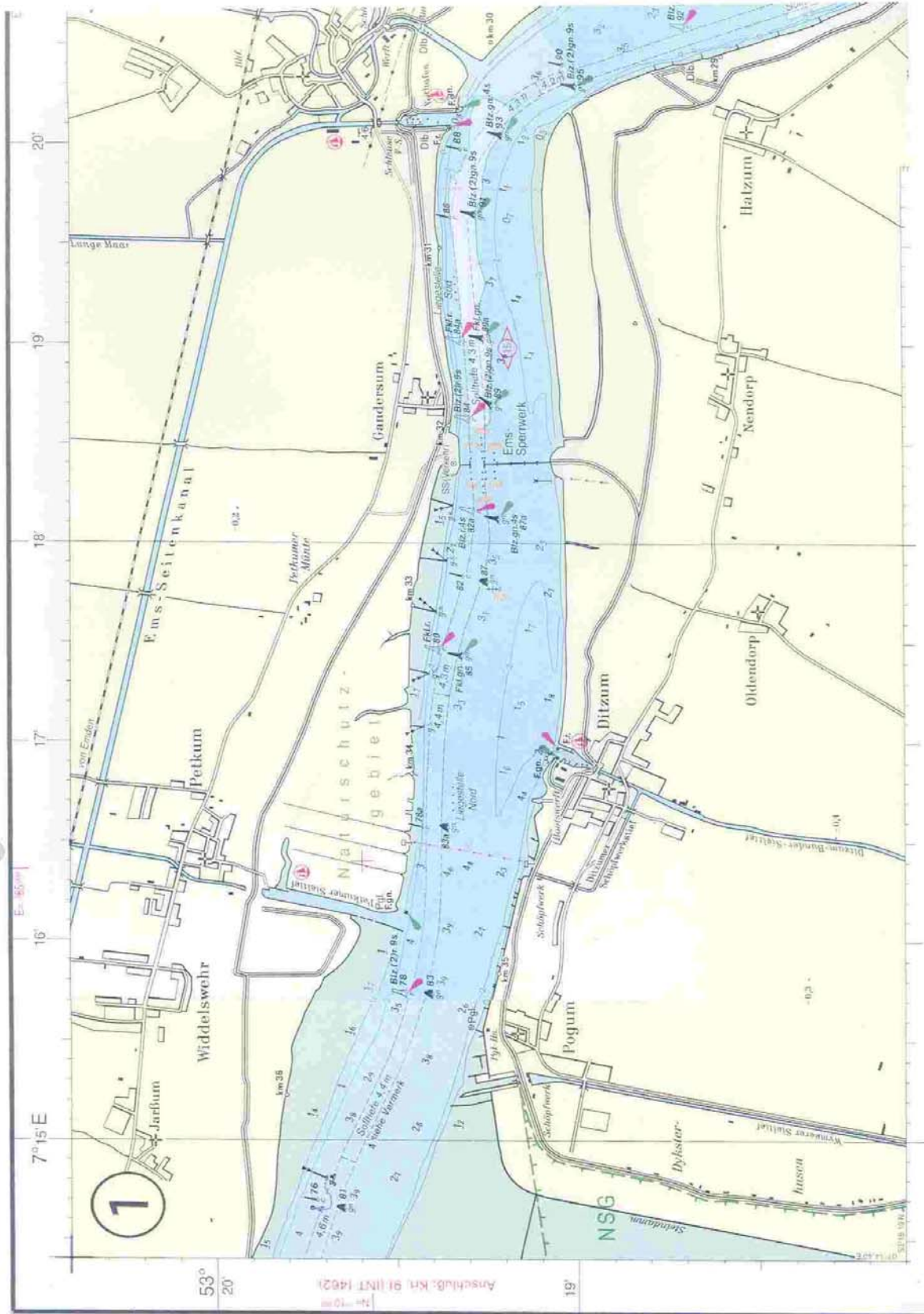


Figure 2: Scene of casualty - chart



**Figure 3: Scene of casualty – detailed view**

### 3 Vessel particulars and photographs



**Figure 4: Passenger Vessel SPIEKEROOG II**

|                       |  |
|-----------------------|--|
| Name of vessel:       | SPIEKEROOG II  |
| Operator:             | Nordseebad Spiekeroog GmbH                             |
| Port of registry:     | Spiekeroog   |
| Nationality/Flag:     | Federal Republic of Germany                            |
| IMO-Number:           | 8024143  |
| Ship's call letters:: | DDCB   |
| Type of vessel:       | Passenger vessel with cabins                           |
| Crew:                 | 4  |
| Classification:       |  |
| Class:                | GL   |
| Year built::          | 1981   |
| Shipbuilding yard:    | Martin Janssen Schiffswerft +<br>Maschinenfabrik, Leer |
| Length overall:       | 47.70 m  |
| Width overall:        | 9.00 m   |
| Maximum draft::       | 1.44 m   |
| Gross tonnage:        | 495  |
| Deadweight:           |  |
| Main engine:          | 2 Diesel-Engines DORMAN DIESELS<br>LTD.                |
| Engine rating::       | 894 kW   |
| Speed:                | 10 kn  |

## 4 Course of the voyage / Details of the casualty

After three weeks in the shipyard for maintenance, the passenger vessel SPIEKEROOG II left Oldersum on 7th. March, 2003 at 08:15 h LT. She was bound for her home port, Spiekeroog. The captain, the chief officer and two seamen were on board.

There was a moderate wind from NNE – strength 2 on the Beaufort scale. Thick fog reduced visibility to 40 metres. There was an ebb current and low tide was reached at 09:22 h LT. Sunrise was at 07:01 h LT.

The captain stated that he had suffered a lot of stress and had been exhausted because of the time in the shipyard. In spite of having time for nine hours of sleep before leaving the yard, the captain had not felt rested when the vessel had begun her voyage. He added that the bridge had been fully manned with the four above-mentioned persons. The traffic reporting station had been informed. Both radars had been in operation and had been under constant observation by him. Taking all this into consideration, the captain had felt sure that he could proceed safely down the fairway to the main opening of the flood barrage. On seeing the limitation piles and believing that the radar did not give a sufficiently good display, he had decided to navigate through vision.

It was only when he collided with the construction did the captain, according to his statement, realise that he was proceeding towards the inland navigation opening. The casualty happened at 08:24 h LT. The vessel proceeded at reduced speed through the inland navigation opening, after the radar mast had broken to the aft. The captain took over the wheel himself and tried to reach the northern bank. As the aerials of the other pieces of navigational equipment had been destroyed with the radar mast, he found his bearings with the echo sounder and the wave display. He anchored near buoy “82” at 08:40 h LT. Then he contacted the yard by telephone. The yard informed the river police and the supervisors of the flood barrage.

The river police vessel number 8 reached the passenger vessel SPIEKEROOG II at 11:15 h LT. A statement was taken and anchor heaved at 11:25 h LT. The river police escorted the vessel on its way to Oldersum. At 11:45 h LT the passenger vessel SPIEKEROOG II made fast to the piles near the sluice in Oldersum.

Nobody was injured and no environmental pollution was caused. There was however considerable damage to the vessel and to the flood barrage.

## 5 Summary of the damage / Photographs of the damage

Among other things the railing of the flood barrage, the lower part of its bridge over the inland navigation opening and the movable element of the channel were damaged.



**Figure 5: Flood barrage**





**Figure 6: Damage at the flood barrage**



**Figure 7: Detailed damage at the flood barrage**

The Passenger Vessel SPIEKEROOG II sustained considerable damages due to the breakdown of the radar mast off the wheelhouse top and its downfall on the upper deck. Thus among other things 6 liferafts, the navigation instruments, benches as well as navigation- and lighting installations were damaged. On the wheelhouse top ruptures and holes arose. Furthermore at the chimney some pipes were bended.



**Figure 8: Damage at the Vessel - front view**



**Figure 9: Damage of the vessel - aft view**



**Figure 10: Damage to the radar mast**

## 6 Analysis

The investigations of the river police Emden and the Federal Bureau of Maritime Casualty Investigation came to the following conclusions:

The chart used on board had not been brought up to date. It however could still be seen on the material used that the flood barrage could only be passed through the main navigation opening. According to the statement of the captain, he had been quite aware of this.

The radars used were set at a range of 0.5 nm and 0.75 nm. Because of the visibility, we can assume that these settings were used while leaving the harbour and that there was a failure to switch over to at least 1.5 nm. In this case the flood barrage would have been recognised on the screen in time. The failure to do this and the reduced visibility explain why evasive action could not be taken in time.

The statement of a further witness also leads to the conclusion that the casualty was caused by a navigational misjudgement. Shortly before reaching the flood barrage the watch in the forecabin reported the first piles to the port. Nobody seemed to know the nature of these piles because the captain ordered an alteration of course to port. With this alteration of course the passenger vessel SPIEKEROOG II proceeded directly into the inland navigation opening.

There was no compulsory pilotage. It would however have been good seamanship, and, considering the physical condition of the captain, it would have shown responsibility had a pilot been requested.

Furthermore this maritime casualty gives us the opportunity to point out the following again:

- Navigational documents such as charts should always be corrected and brought up to date!
- Radars must always be set and used according to the area they are being used in (taking geographical and meteorological conditions into consideration)!
- The captain of every vessel is obliged to make sufficient arrangements so that a safe watch on the bridge is guaranteed. He must make sure that all watch duty officers, including himself are rested and physically and mentally able to carry out their watch to its full extent.

The investigation was conducted in conformity with the law to improve safety of shipping by investigating marine casualties and other incidents (Marine Safety Investigation Law - SUG) of 24 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.

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