

Disaster at sea: Herald of free Enterprise

Contributed by Administrator

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MS Herald of Free Enterprise was a roll-on roll-off (RORO) car and passenger ferry owned by Townsend Thoresen. She was one of three ships commissioned by the company to operate on the Dover–Calais route across the English Channel. The ferry capsized on the night of 6 March 1987 killing 193 passengers and crew. This was the worst maritime disaster involving a British registered ship in peacetime since the sinking of the *lolaire* in 1919.

On the day the ferry capsized, the Herald of Free Enterprise was working the route between Dover and the Belgian port of Zeebrugge. This was not her normal route and the linkspan at Zeebrugge had not been designed specifically for the Spirit class of vessels. The linkspan used comprised a single deck and so could not be used to load decks E and G simultaneously. The ramp could also not be raised high enough to meet the level of deck E due to the high spring tides being encountered at that time.

This was commonly known and was overcome by trimming the ship bow heavy by filling forward ballast tanks. The Herald was due to be modified during its refit in 1987 to overcome this problem. Before dropping moorings, it was normal practice for a member of the crew, the Assistant Bosun, to close the doors; the First Officer also remained on deck to ensure they were closed before returning to the wheel house.

To keep on schedule, the First Officer returned to the wheelhouse before the ship dropped its moorings leaving closing of the doors the responsibility of the Assistant Bosun, Mark Stanley. Mark Stanley had taken a short break after cleaning the car deck upon arrival at Zeebrugge. He had returned to his cabin and was still asleep when the ship dropped its moorings. The captain could only assume that the doors had been closed since he could not see them from the wheel house due to their construction and had no indicator lights in the wheelhouse. There was confusion as to why no one else closed the doors.

The ship sailed at 6:05pm British time with a crew of 80 and carrying 459 passengers, 81 cars, 3 buses and 47 trucks. When the ferry reached 18.9 knots (33 km/h) 90 seconds after leaving the harbour, water began to enter the car deck in large quantities. The resulting free surface effect destroyed her stability. Within seconds, at 6:28pm, the ship began to list

30 degrees to port. The ship briefly righted herself before listing to port once more, this time capsizing. The entire event took place in less than a minute. The water quickly reached the ship's electrical systems, destroying both main and emergency power and leaving the ship in darkness.

The ship ended on her side half-submerged in shallow water 1km from the shore. Only a fortuitous turn to starboard in her last moments, and then capsizing onto a sandbar, prevented the ship from sinking entirely in much deeper water, which would have resulted in an even higher death toll.

A nearby dredger noticed the Herald's lights disappear, and notified the port authorities. A rescue helicopter arrived within half an hour, shortly followed by assistance from the Belgian Navy who were undertaking an exercise within the area.

The disaster resulted in the deaths of 193 people. Many of those on board had taken advantage of a promotion in The Sun newspaper for cheap trips to the continent. Most of the victims were trapped inside the ship and succumbed to hypothermia because of the frigid (3 °C) water. Due to the rescue operation of the Belgian Navy the death toll was limited. Recoverable bodies were removed in the days following the accident.

After a public inquiry into the sinking in July 1987, Britain's Lord Justice Sir Barry Sheen published a report that castigated Townsend Thoresen, the ship's owners, and identified a "disease of sloppiness" and negligence at every level of the corporation's hierarchy. It was confirmed that the ferry left port with her bow doors open.

It was apparent from the testimony of crew members that the member responsible for shutting the doors was Mark Stanley, but it was confirmed that when he finished cleaning the car deck after the arrival in Zeebrugge he returned to his cabin for a short break but did not return to the car deck during loading of vehicles and before the ship set sail. When he was questioned, investigators found that at the time when he should have closed the doors, he was still asleep during his break. There was confusion as to why no one else closed the doors. The other crew members expected Stanley to close them because he was scheduled to close them. Before the ship dropped moorings the First Officer should have stayed on the car deck to make sure the doors were closed, but trying to stay on schedule he left the car deck and went to the bridge before the doors were closed. This was normal practice, and the final factor was that from his position on the bridge the captain was not able to see the bow doors clearly, leading him to assume that they were closed.[citation needed]

A few years earlier, one of the Herald's sister ships sailed from Dover to Zeebrugge with the bow doors open, but she made it to the destination without incident.[citation needed] It was therefore believed that leaving the bow doors open alone should not have caused the ship to capsize.

After looking at possible reasons for reduced clearance between the doors and water line, investigators found that there was a problem during the loading of the car decks. The loading ramp at Zeebrugge was too low to reach the upper car deck at high tide. To clear the gap, the captain put sea water into the front ballast tanks to lower the ship's bow. The clearance between bow doors and water line was 2.5 metres. The problem arose due to the fact that Dover-Zeebrugge was not her regular route. Had the Herald survived she would have been modified to avoid this procedure.

Another factor that contributed to the capsizing was the depth of the water. When a vessel is underway, the movement under it creates low pressure, which has the effect of increasing the vessel's draft. This effect is known as ship "squat". In deep water the effect is small but in shallow water it is greater, because as the water passes underneath it moves faster and causes the draft to be increased further. This reduced the clearance between the bow doors and water line to 1.5 metres. Although the bow doors were open and they were 1.5 metres above the water, it was still not enough to cause the ship to capsize, so the investigators looked at the height and volume of water produced by the bow wave.

After extensive tests, the investigators found that when the ship travelled at a speed of 18 knots (33 km/h), the wave was enough to engulf the bow doors. This caused a "step change": if the ship was below 18 knots and not in shallow water, people on the car deck would probably have had time to notice the bow doors were open and close them, but even this did not cause the final capsizing.

Almost all ships are divided into watertight compartments below the water line so that in the event of flooding, the water is confined to one compartment, keeping the ship afloat. The Herald's design had an open car deck with no dividers, allowing vehicles to drive in and out easily, but this allowed water to flood the whole of the car deck, putting the ship in danger. As she turned the water flooded to one side and the vessel capsized.

In October 1987, a coroner's inquest jury into the capsizing returned verdicts of unlawful killing. Many of the individuals involved at the company were prosecuted for manslaughter, as was the operating company, P&O European Ferries (Dover) Ltd (for a discussion of the legal issues, see corporate manslaughter). The disaster was one of a number that influenced thinking leading to the Public Interest Disclosure Act 1998.