

**Report of the
Investigation into the grounding
of the Passenger Ro-Ro Ferry**

STENA CHALLENGER

on 19 September 1995

Blériot-Plage, Calais

**Marine Accident Investigation Branch
5/7 Brunswick Place
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The fundamental purpose of investigating an accident under these Regulations is to determine its circumstances and the causes with the aim of improving the safety of life at sea and the avoidance of accidents in the future. It is not the purpose to apportion liability, nor, except so far as is necessary to achieve the fundamental purpose, to apportion blame.

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1. SUMMARY

On 19 September 1995 the UK registered ro-ro passenger ferry, STENA CHALLENGER, was on a night-time sailing from Dover to Calais with 172 passengers and 73 crew on board when she ran aground in the approach channel to Calais. There was a north-north-easterly gale force wind blowing at the time and STENA CHALLENGER had to slow down to wait for an outward bound ferry to clear the harbour.

Power was reduced and the vessel continued towards the harbour entrance. When it was realised that the vessel was not in the centre of the channel and was drifting to the south and not answering the helm more power was applied. The bow thrusters were also activated but the vessel would not turn head to wind. Within a few minutes the vessel grounded on the gently sloping sandy beach about 1.3 miles to the west of Calais Harbour entrance.

Initial attempts to refloat the vessel failed. However with the aid of three tugs STENA CHALLENGER was refloated at high water the following evening and subsequently proceeded under her own power into Calais.

A substantial amount of bottom plating was damaged in the accident but the hull was not pierced and no pollution occurred. There were no injuries and no personnel were required to be evacuated from the vessel.

The investigation has concluded that the cause of the accident was the lack of adequate monitoring of the vessel's position during the approach to Calais and a consequent unawareness of the vessel's exact position. Also before full power had been achieved, with which it was expected to turn the vessel into the wind, the vessel was probably already aground. Other factors include the lack of a navigational mark at the southern limit of the approach channel; poor communication on the bridge of STENA CHALLENGER; poor passage planning with respect to pilotage; and absence of positive traffic control in the approach channel.

PART I FACTUAL ACCOUNT

2. PARTICULARS OF SHIP AND CREW

2.1	Name	:	STENA CHALLENGER
	Type	:	Ro-Ro Passenger Ferry
	Built	:	Fosen Mek. Versteder A/S, Fosen, Norway 1991
	Port of Registry	:	Dover, UK
	Official No	:	8917388
	Overall Length	:	157.28 metres
	Extreme Breadth	:	24.3 metres
	Maximum Draught	:	5.51 metres
	Speed	:	18.0 knots
	Gross Tonnage	:	18,523
	Passenger numbers	:	500 Maximum
	Main Engine	:	2 x Sulzer 8ZAL40S engines driving twin controllable pitch propellers
	Propulsion Power	:	10,560 kW at 510 rpm
	Rudders	:	Two Becker Rudders
	Thrusters	:	Two Tunnel Bow Thrusters (11 and 22 tonnes)
	Managers	:	Stena Sealink Ltd, Ashford, Kent
	Classed	:	Det Norske Veritas (DNV)

The vessel was originally used as a freight/ro-ro ferry. The larger of the two bow thruster units was fitted when she began to be used on scheduled passenger sailings.

The vessel holds the appropriate certificates for her class and all were in date.

2.2 Navigational Equipment includes:

Radars	:	Three Kelvin Hughes, including one "Nucleus 6000A" and one "HR 3000A" both with ARPA (Automatic Radar Plotting Aid) facilities.
Satellite Navigator	:	Magnavox Mx 4220 GPS
Echo Sounder	:	Skipper ED 162
Speed Log	:	Ben Galatee Mk 3
Gyro Compass	:	Anschultz Gyrostar
Autopilot	:	Nautopilot D
Navtex Receiver	:	Shipmate RS 6100

2.3 Particulars of the Voyage

The vessel operates on the Dover/Calais route as part of Stena Sealink's scheduled passenger service. She makes ten crossings each day at the following times (UTC + 1 hour):

Depart Dover	Depart Calais
0015 hrs	0300 hrs
0615	0830
1045	1300
1515	1730
1945	2200

The crossing, berth to berth, takes about 1 hour 40 minutes.

On 19 September four crossings had been cancelled (0830, 1045, 1300 and 1515 hrs) while repairs to the bow door were undertaken. At the time of the grounding the vessel was on the delayed 1945 hrs crossing from Dover which departed the berth at 2045 hrs. She was carrying 102 vehicles, one trailer and 172 passengers (including drivers).

2.4 Manning

STENA CHALLENGER operates under Stena Sealink's "live aboard" system of manning.

There are usually two Masters, two First/Chief Officers and three Second Officers on board, one person of each rank being on duty and another off duty at any one time. The extra Second Officer undertakes maintenance and administrative tasks. This "team" of deck officers works a week-on/week-off roster with another "team" of seven officers. For training purposes, a Third Officer is also carried occasionally.

Similar arrangements exist for engineer officers, other officers and ratings.

At the time of the grounding there was a total complement of 73 officers and crew on board and the duty officers on the vessel's bridge comprised of the Master, holding a Class 1 (Master Mariner) Certificate of Competency and a Calais Pilotage Exemption Certificate, a First Officer holding a Class 1 (Master Mariner) Certificate of Competency and a Third Officer holding a Class 3 Certificate of Competency.

3. NARRATIVE

All times are Universal Co-ordinated Time (UTC) + 1 hour and courses steered were by gyro compass.

3.1 On Tuesday 19 September 1995 because of a fault in STENA CHALLENGER's bow door, four scheduled sailings had to be cancelled while repairs were carried out. During this time the vessel was alongside in Calais.

3.2 She sailed as soon as the repairs were completed at 1750 hrs arriving in Dover at 1940 hrs where the repairs were inspected by a Marine Safety Agency (MSA) surveyor. The crew change-over took place in Dover. As one of the Second Officers was ill and unable to join, it was decided that the Third Officer, who was being carried in a training role, should undertake some of the Second Officer's duties and assist the First Officer on the navigational watch during the first night. The vessel sailed at 2045 hrs, an hour later than the scheduled time.

The weather forecast indicated north-easterly gale force winds. The crew were ordered to put securing lashings on all the large commercial vehicles and the assistance of a tug on berthing at Calais was requested via Calais Port Radio.

After clearing Dover Harbour limits the Master handed the watch to the First Officer before going below for a meal and to do some paper work. During the crossing the Third Officer effectively kept the watch with the First Officer overseeing him. This situation continued until about 2155 hrs when the Master returned to the bridge to prepare for the pilotage into Calais. The vessel, at this time, was about two miles from the CA6 buoy (see Figure 2). The vessel was in hand steering with one of the seamen on the wheel under the orders of the Officer of the Watch.

Under the supervision of the First Officer the Third Officer handed the watch to the Master, carrying out a set handover routine. The Master then confirmed that he had the con of the vessel. The wind, at this time, is reported to have been north-north-easterly at 35 to 40 knots (force 8).

3.3 At about 2206 hrs STENA CHALLENGER called Calais Port Radio on VHF Channel 12. Calais Port Radio were informed that the vessel was at the CA6 buoy and were asked to confirm that a tug was available. They replied that a tug would be available on arrival, that STENA CHALLENGER should call Calais Port Radio when she had reached CA8 buoy, and that PRIDE OF BURGUNDY would be ready to sail within a few minutes. Receipt of this message was confirmed by STENA CHALLENGER.

With the Master in charge and the First Officer monitoring the pilotage, STENA CHALLENGER began to make the approach to Calais, passing about a cable to the North of CA5 buoy while steering 075°. EUROPEAN ENDEAVOUR was also making an approach to Calais and was about one mile ahead of STENA

CHALLENGER. At about 2207 hrs PRIDE OF BURGUNDY called Calais Port Radio with the message "ready in five minutes". The Master had already started to slow STENA CHALLENGER's approach to await the departure of PRIDE OF BURGUNDY. By 2207 hrs the propeller pitch had been brought to about 20% ahead and the vessel slowed down with the helmsman able to maintain the heading of 075°.

At about 2210 hrs PRIDE OF BURGUNDY informed Calais Port Radio that she was ready to depart. Calais Port Radio gave her permission to swing off the berth while the EUROPEAN ENDEAVOUR entered the port. This manoeuvre completed, PRIDE OF BURGUNDY received permission to depart and Calais Port Radio called STENA CHALLENGER to tell her that PRIDE OF BURGUNDY would have to leave before she could enter.

- 3.4 The Master ordered the helmsman to steer 065° in an attempt to bring the head further into the wind as the vessel's speed slowed through the water. The helmsman was able to do that but subsequently found it difficult to maintain the heading. By this time, about 2216 hrs, the vessel was virtually stopped in the water. The Master operated the bow thrusters to port and increased the pitch on the propellers. The wheel was handed over to another seaman at about 2218 hrs.

The Master became concerned that the vessel was not answering the helm. Over a period of three minutes, between 2216 and 2219 hrs, propeller pitch was increased from 20% ahead to full ahead. The bow thrusters were acting full to port and the helm was hard to port. The Master ordered the helmsman to steer 060° but was told that the helm was already hard over.

PRIDE OF BURGUNDY cleared the harbour entrance outward bound at 2220 hrs.

STENA CHALLENGER's Master maintained propeller pitch at full ahead, and bow thrusters and helm to port, expecting the vessel's head to begin swinging into the wind. This did not happen and at 2224 hrs it was apparent that the vessel was aground. At about the same time Calais Port Radio called STENA CHALLENGER and gave her permission to enter the port.

- 3.5 At 2226 hrs STENA CHALLENGER asked Calais Port Radio for the assistance of a tug. PRIDE OF BURGUNDY offered to stand-by; her offer was accepted. The crew were ordered to emergency muster stations using selected channels on the public address (PA) system.

Because STENA CHALLENGER had a conventional flat bottom and the beach was known to be gently shelving sand, passengers were informed by PA system that the vessel was aground but that they were in no danger. Members of the Passenger Service Department were instructed to reassure passengers that the vessel was safe.

- 3.6 Engines and rudders were used in different configurations to try and work the vessel clear of the beach. These efforts to refloat the vessel continued without success. At 2250 hrs the tug CALAISIEN arrived on scene but, due to the weather, was unable to approach close enough for a line to be passed to the vessel. Rocket line throwing apparatus was used by STENA CHALLENGER without success.

Stena Sealink Management were informed of the situation and their emergency response procedure was instigated.

- 3.7 At 2310 hrs the Calais Lifeboat was asked to assist in trying to pass a line to the tug. Rocket lines were again used without success. At about this time PRIDE OF BURGUNDY was released and STENA INVICTA, which was approaching the port, was asked to stand-by. STENA CHALLENGER's ballast tanks were filled to settle the vessel on to the beach.

With the vessel aground on a falling tide "Finished With Engines" was ordered at 0005 hrs on 20 September. The tug CALAISIEN returned to harbour and STENA INVICTA was released. Preparations to refloat the vessel at the next high water were started.

- 3.8 Attempts to refloat the vessel recommenced at about 0530 hrs. The wind was still gale force from the north-north-east. At the time of high water, 0917 hrs, two tugs were made fast aft on STENA CHALLENGER. Eventually a third tug was made fast aft at 1105 hrs and the vessel's stern was successfully pulled off the beach although the bow remained aground. At 1120 hrs, with the vessel lying perpendicular to the beach, the attempts to refloat her were again postponed until the next high water.

At 1945 hrs, with two harbour tugs already fast, the salvage tug ABIELLE PICARDIE was made fast aft and another attempt was made to refloat STENA CHALLENGER in a north-easterly force 7 to 8 wind. The vessel was successfully refloated at 2004 hrs and using her own engines, with tug assistance, she berthed in Calais at 2205 hrs on 20 September.

- 3.9 During the subsequent inspection of the hull in dry dock STENA CHALLENGER was found to have a significant amount of damage to the bottom plating and internal stiffening in the amidships area port and starboard and to the starboard forefoot. It is not known how much of this damage was caused at the time of grounding, while the vessel was aground, or during attempts to refloat her. There was no hull penetration.

No injuries or pollution occurred as a result of the accident.

PART II CONSIDERATION OF POSSIBLE FACTORS

4. MANNING AND MANAGEMENT

In general, Stena Sealink's cross channel vessels are well equipped, properly manned and correctly managed. Much of each vessel's management has been delegated to the vessel's Senior Master. Overall, the standards on board STENA CHALLENGER appear to be high and the Company's Standing Orders and those of STENA CHALLENGER's Senior Master are comprehensive.

The Master on duty on the evening of 19 September was appropriately qualified and experienced. He obtained his Master's Certificate (now called a Class 1 Certificate) in 1975 and had worked for Sealink (later to be called Stena Sealink) for about 20 years. He had been Master for the last eight years, the first four years on a temporary basis and the last four permanently. He had been Master on STENA CHALLENGER for 10 months. When interviewed six days after the accident he appeared conscientious, open and helpful. Although he accepted his own responsibility for the accident he considered the main cause to have been the vessel's inability to turn into the wind.

The First Officer on duty on the evening of 19 September was appropriately qualified, with a Class 1 Certificate obtained in 1989, but was relatively inexperienced on cross channel ferries in general and in particular in the role of First Officer. He was a Second Officer on permanent contract who had been employed by Stena Sealink Ltd since September 1994. He was appointed to STENA CHALLENGER in March 1995. He had been temporarily promoted to First Officer on the day of the accident and had served in a temporary capacity as First Officer on three previous occasions, each time for between two and six days. His inexperience in the rank was a factor in this accident (see Section 5.4).

Fatigue is not considered to have been a factor in this accident, because both the Master and First Officer had just come on duty after a period of leave.

The number of round trips by each ship per day has increased over the last few years from four to five. This has undoubtedly increased the pressure on the Master and officers but cannot be quantified as a causal factor in this accident. However, with each Master having to perform on average ten pilotage operations each day as well as other duties, it is important that they have the support of an experienced First or Chief Officer on the bridge, especially when the pilotage is further complicated by bad weather and darkness.

Although the vessel was behind schedule there is no indication of undue pressure from the owners being placed on the Master to make up time. However there would have been a natural tendency in a conscientious master to strive, as far as safety would allow, to keep to the schedule. It is possible that this influenced the Master's actions while waiting for clearance to enter Calais.

5. NAVIGATION

5.1 Approach Track

It is apparent that the Master and officers on the bridge of STENA CHALLENGER on the night of 19 September thought that the vessel had started her approach to Calais at mid-channel or just to the south of mid-channel. They also thought that during the approach, until about 2216 hrs, she remained in the middle of the channel or possibly had moved slightly to the north.

Positions obtained from the radar track recorded by Dover Coastguard's Channel Navigation Information Service (CNIS) show the vessel to have been about two cables further to the south and proceeding close to the charted limit of the channel. This system is reported as being accurate to within 100 metres at the extremes of its range.

A study of the CNIS radar recordings indicates other vessels earlier that evening taking a similar approach on the southern limits of the channel. This observation is more surprising bearing in mind the north-north-easterly gale force wind and the close proximity to the beach.

The cross channel ferries on the Dover/Calais service operate their own voluntary separation zone which requires the Calais bound ferries to take a more westerly route across the English Channel traffic separation lanes and thereafter a shallow angled approach to the CA5 buoy at the western end of the Calais approach channel. All those concerned consider that this is a major improvement to operational ferry safety. However it may explain the apparent tendency for vessels to start their approach to Calais from a position near to the southern extremity of the channel.

STENA CHALLENGER passed within one cable of CA5 buoy. Both the Master and First Officer thought that the vessel was further to the north. This discrepancy might be explained by the fact that it is very difficult to accurately assess, by sight, the distance of an observer from the flashing light of a buoy at night and in bad weather. Additionally it is likely that the radar echo of the buoy would have been indistinguishable at close range in the sea clutter on the radar screen. These facts might also explain why the First Officer thought the vessel was very close to CA8 buoy at one stage when in fact the vessel did not get closer than approximately five cables.

5.2 Conduct of the Approach

At 2206 hrs it was uncertain whether STENA CHALLENGER would be able to enter Calais before PRIDE OF BURGUNDY left. However the Master decided to be cautious and slow down the vessel on the assumption that STENA CHALLENGER would have to wait. At 2210 hrs Calais Port Radio confirmed

this order at which time STENA CHALLENGER was still to the west of CA8 buoy. The Master knew, at this time, that he had at least 10 minutes to wait before being able to enter.

The Senior Master's Standing Orders stated:

"The STENA CHALLENGER is extremely susceptible to the effect of wind, and makes far more leeway than might be expected. The amount of leeway is obviously increased when the vessel's speed is reduced."

In addition to the strong wind on the beam there was also an easterly flowing tidal stream of up to one knot.

These factors should have indicated to the Master that under the circumstances he should have turned the vessel's head into the wind whilst the vessel was in the wider part of the approach channel to the west of CA8 buoy or, alternatively, turned and waited to the west of CA6 buoy. Instead the vessel was allowed to continue to proceed under minimum engine power towards the harbour entrance.

5.3 Position Monitoring

After the con had been taken over by the Master, the First Officer assumed the role of monitoring the vessel's pilotage. The Senior Master's Standing Orders included the following instruction:

"Whenever the Master has charge of the Bridge whilst approaching, or manoeuvring within a port or harbour, a Deck Officer will remain on the bridge at all times. This Deck Officer will continue to monitor the vessel's position and proximity to any hazards, including shallow water and harbour berths and obstructions, and must not hesitate to advise the Master if he has any doubt about the safety of any manoeuvre, or if the vessel is standing into danger."

On this occasion the Master was conning the vessel and monitoring the position and progress by means of visual reference to the lights shown by the channel marker buoys and those at the harbour entrance, combined with estimates of range using radar range rings. With the vessel having to allow up to minus 18° for leeway in the strong on-shore wind these lights would have appeared in unusual positions relative to the vessel's heading thus making the Master's assessment of the vessel's position and progress more difficult. The problem was further exacerbated by the southern limit of the channel not being marked between CA5 buoy and the harbour entrance, a distance of 2.7 miles (see Figure 2).

The First Officer was also monitoring the vessel's position. He used, in addition to visual reference to the lights and buoys, an estimated "safety line" between the radar echoes of the harbour entrance and the CA5 buoy. This line was not drawn on the radar screen but only visually estimated. The radar echo from CA5 buoy, which was astern of the vessel after 2206 hrs, would have been masked by the sea clutter on the radar. Additionally, it was reported that the video boost on the main radar was switched on, causing the radar echoes of the two breakwaters at the harbour entrance to merge. With these two facts in mind it is difficult to appreciate how this method of navigation could be used with any degree of accuracy. From his observations the First Officer recollected that the vessel was making the approach to the north of this line. From the CNIS radar recording it would appear that this was only true until about 2213 hrs.

STENA CHALLENGER is equipped with two modern ARPA (Automatic Radar Plotting Aid) radars. The principal radar was being used in the "north-up, ground stabilised mode". Ground stabilisation was being achieved by referencing on the echo from the RCW buoy, which is 4.2 miles NW of the harbour entrance. However, neither the radar electronic parallel index facility nor the radar mapping facility was being used. The echo sounder also was not in use.

A number of simple methods of continuously monitoring the position of the vessel relative to the coastline could have been used during the approach to Calais. An accurate position plotted on the chart at any time during the approach would have indicated any discrepancy though it is accepted that with the chartroom situated aft of the navigating bridge this does take time during which the situation could easily change. Also it can result in the officer losing his night vision. However, the use of the radar mapping facility would have indicated any discrepancy, and the use of parallel indexing would have given instant warning of the vessel being off the intended track. Merchant Shipping Notice No M.1158 draws attention to the assistance which parallel indexing techniques can give when continuous monitoring of a vessel's position is necessary:

"Investigations of casualties involving the grounding of ships, when radar was being used as an aid to navigation, have indicated that a factor contributing to the grounding was the lack of adequate monitoring of the ship's position during the period of time leading up to the casualty. Valuable assistance to position monitoring in relation to a pre-determined navigation plan could have been given in such cases if the bridge personnel had used the techniques of Parallel Index Plotting on the radar display"

The main radar on STENA CHALLENGER has the facility to programme parallel index line information into a memory to be recalled as necessary. With the existence of a "standard" approach to Calais, as described in the Senior Master's Standing Orders, it is surprising that the relevant parallel index lines and, perhaps, radar map were not pre-programmed into the radar.

This apparently lax attitude to fundamental navigational practice is further illustrated by the inaccuracy of the plotted positions after the grounding. After the vessel had grounded her position was plotted on Admiralty Chart No 1352. For the purpose of plotting the position only a single radar range and bearing of, what appeared to be, a breakwater was used and this position was not cross-checked using other bearings or alternative position fixing methods, although there were a number of recognised navigational marks visible and an operational GPS navigator was on board. In fact STENA CHALLENGER's actual grounding position was some four cables eastward of the one plotted on the chart because there are in fact additional breakwaters to the east of the ones printed on the chart and it was one of those, and not the charted one, that was repeatedly used to plot the vessel's position during the twelve hour period after the accident.

The Master had piloted vessels into Calais frequently, and both the Master and First Officer were confident that precise position monitoring, using the mapping facilities incorporated into the radars and the use of parallel indexing techniques, was not necessary. The reliance for position monitoring on visual estimates of positions gained from buoys and lights, backed by casual reference to estimated ranges on the radar is a practice that has great potential for error even when carried out by mariners who are very familiar with the pilotage area. Even so, had the southern limit of the channel been marked by an additional buoy between CA5 buoy and Calais Harbour entrance it is likely that this incident would not have occurred.

5.4 Bridge Team Management

The Senior Master's Standing Orders contained a Standard Passage Plan. In relation to the final approach to Calais this plan indicated a track of 078° to the harbour entrance starting from a position two cables to the north of the CA5 buoy. This standard approach track therefore started just outside the southern limit of the charted approach channel.

No discussion took place on 19 September prior to or during the pilotage regarding the way in which the Master proposed to conduct the approach to Calais.

Although both the Master and First Officer were under the impression that the approach which started at about 2206 hrs was near to the Standard Passage Plan, the First Officer should have been informed and kept aware of the Master's intentions so as to enable him to perform his monitoring role properly. In the event the intended plan was altered due to other traffic movements and the weather. Again the Master did not inform the First Officer of his new intentions and the First Officer did not ask for the relevant information. The First Officer was of the opinion that because the Master had undertaken the pilotage so many times before "he must know what he was doing" and the First Officer was therefore reluctant to come forward with his own observations.

In this way the available expertise on the bridge was not used efficiently and the First Officer's role in monitoring the pilotage was reduced in value. A full exchange of information should have been encouraged.

5.5 Time of Grounding

The pitch on the propellers was reduced rapidly from full to 20% ahead at about 2207 hrs, just after the vessel had passed CA5 buoy. STENA CHALLENGER maintained her approach track on reduced speed until about 2213 hrs, at which time she started to drift to the south under the influence of the strong north-north-easterly wind. When the officers realised the vessel was not responding properly to helm orders the bow thrusters were activated and ahead pitch on the propellers was progressively increased. The propeller pitch movement record shows this to have been a gradual increase from about 20% ahead pitch to full ahead pitch over the three minutes between 2216 hrs and 2219 hrs. There does not appear to have been any element of haste in the initial stages of this operation which reinforces the impression that, at 2216 hrs, the Master and First Officer thought there was still sufficient depth in which to manoeuvre. By 2219 hrs the officers were aware that the vessel was still not responding to helm or bow thrusters and that STENA CHALLENGER was drifting, or had drifted, rapidly to the south. It was at about this time that the use of an anchor was considered, but this was rejected because it was thought that the amount of anchor cable necessary to hold the ship in the wind conditions would allow the stern to ground. The Master continued with full port helm, full ahead power and full power to port from the bow thrusters hoping that the vessel would begin to respond.

The CNIS track record shows that the stern of the vessel may only have been about 250 metres from the beach at 2216 hrs when the ahead propeller pitch started to be gradually increased and the bow thrusters were activated. By 2219 hrs, the time that full ahead pitch was applied, STENA CHALLENGER may already have been aground.

At 2224 hrs STENA CHALLENGER was physically felt by those on board to have run aground, however the CNIS recording shows that the vessel moved only a total of about 100 metres ahead or to starboard between 2218 hrs and 2224 hrs. Bearing in mind that full ahead power was maintained for nearly all of these six minutes, albeit with the rudders hard over to port, and that a one knot easterly flowing tidal stream was predicted, it is inconceivable that the vessel was completely free floating throughout this period.

It is considered likely, therefore, that the vessel initially ran aground at about 2218 hrs and that those on the bridge did not feel STENA CHALLENGER running aground because of the large amount of vibration caused by full power being applied to both propellers and bow thrusters in the shallow water conditions. The vessel may have temporarily refloated, on a wave for instance, before being felt to ground at 2224 hrs. The fact that the vessel did not respond at all to the helm or thrusters during this period confirms this as the most likely scenario.

6. CALAIS PORT CONTROL

The control exercised by the Port Authority was not absolute. For example, no specific directions were given to inbound vessels as to where they had to wait pending clearance to enter the harbour, neither were such directions expected. The accepted routine was to receive reports from vessels preparing to leave or enter the harbour, decide on the order of priority and inform each vessel accordingly.

Calais Port Radio was contacted at 2206 hrs with the information that STENA CHALLENGER was at CA6 buoy, which is about 10 minutes steaming from the harbour entrance. Calais Port Radio had already had an indication from PRIDE OF BURGUNDY that she would be ready to depart from Calais shortly, but had not received her official "five minutes before departure" call. Calais Port Radio told STENA CHALLENGER that PRIDE OF BURGUNDY would be ready to depart in a few minutes and asked STENA CHALLENGER to call again at the CA8 buoy which is one mile from the harbour entrance. From this it is concluded that by then Calais Port Radio had not decided the future order of vessel movements and they wanted STENA CHALLENGER to call again when she was closer. In this way STENA CHALLENGER was encouraged to start her approach to the port and to come as far as CA8 buoy without having been given positive clearance to enter Calais.

Very soon after this initial radio contact, at about 2207 hrs, PRIDE OF BURGUNDY called Calais Port Radio to give five minutes notice of departure. This was accepted by Calais Port Radio but STENA CHALLENGER was not contacted and informed that PRIDE OF BURGUNDY would be leaving Calais before she could enter. This information was not passed to STENA CHALLENGER until 2210 hrs which was after PRIDE OF BURGUNDY had called to say that she was in fact ready to depart.

STENA CHALLENGER's Master had assumed that PRIDE OF BURGUNDY would depart first and consequently had reduced the pitch on his vessel's propellers to 20% ahead by 2207 hrs. However, the fact that Calais Port Radio did not announce its decision on vessel movements until 2210 hrs did not help the decision-making process on board STENA CHALLENGER.

In this case the safest course of action, given the gale force on-shore wind and easterly flowing tide stream, would have been to stay outside CA6 buoy until given positive clearance to enter. In order to make a judgement on the best course of action to take in strong wind or foggy conditions, Masters of ferries, on reaching CA6 buoy, need to receive a clear statement from Calais Port Radio indicating future traffic movements in and around the port. By the time CA8 buoy is reached vessels are almost committed to enter the port. Stopping or turning after that stage to allow another vessel to leave first, can be a hazardous operation.

Until 18 months before this accident Calais Port Radio had given clearance to enter the port when the vessel concerned reached CA6 buoy. However, since that time Calais Port Radio has been asking some vessels to "call again at CA8".

Because the number of ferry movements in Calais is expected to increase from its present level of 50 a day to, maybe, as many as 78 a day in 1996, it is considered important that Calais Port Authority develops the potential to direct all traffic more positively than at present, both in the harbour and in the approach channel to the east of CA6 buoy.

7. STENA SEALINK'S EMERGENCY PLAN

The handling of the emergency after the grounding by both the ship and the shorebased teams was efficiently accomplished. Local tugs were quickly on the scene and an emergency headquarters manned by sufficient staff was soon set up in Ashford, Kent, in England. It was promptly decided that the vessel was in no immediate danger. Communications by Stena Sealink with both the vessel and the French salvage and harbour authorities were efficient and unimpeded by media interference.

At no time was there any uncertainty about the ultimate safety of the vessel. Passengers were kept informed of the situation. They were not called to muster stations so as not to worry them unnecessarily. There was no attempt to evacuate STENA CHALLENGER; the passengers remained on board. These actions are considered to have been the correct ones under the circumstances.

Direct communication between the UK Coastguard and the vessel was not set up until about an hour after the time of grounding, however the UK Coastguard had been in contact with their French counterparts soon after the grounding and available helicopter resources had already been alerted to the potential emergency.

8. SALVAGE OPERATION

During the first, unsuccessful, attempts to refloat the vessel soon after it had grounded, problems were experienced in passing lines between STENA CHALLENGER and the harbour tugs. The tugs would not or could not get close enough to receive a messenger line directly from the ship. It appears that they were not equipped to be able to fire rocket lines. All attempts to reach the tugs by firing rocket lines from STENA CHALLENGER were unsuccessful because of the gale force wind.

At an early stage a salvage contract was agreed with the only salvage company with the appropriate local resources.

Problems in passing lines also dogged the first full attempt to refloat the vessel at high water on the morning of 20 September. Only two harbour tugs were made fast by the time of high water with a third making fast subsequently. The attempt to refloat STENA CHALLENGER was unsuccessful, but her stern was manoeuvred clear so that the vessel was left lying perpendicular to the beach until next high water during the evening.

A salvage tug, ABIELLE PICARDIE, which arrived on scene from Cherbourg was instrumental in the second, and successful, full attempt to refloat STENA CHALLENGER which was made during the evening high tide.

PART III CONCLUSION

9. FINDINGS

- 9.1 The cause of the accident was the lack of adequate monitoring of the vessel's position with a consequent unawareness of the vessel's exact position at the start of and during the approach to Calais.
- 9.2 At the start of the approach to Calais Harbour the vessel was further to the south of the centre of the channel than thought.
- 9.3 When told that another ferry was leaving the port, instead of putting the vessel in a safe position to wait for clearance, it proceeded towards the harbour entrance at a reduced speed.
- 9.4 While proceeding with minimum manoeuvring power, insufficient allowance was made for the leeway created by the very strong on-shore wind.
- 9.5 When it was realised that the vessel was drifting to the south full helm and power were applied too late to bring the vessel into the wind.
- 9.6 By the time that sufficient power had been gained the vessel was probably already aground.
- 9.7 There was a lack of pre-planning of the pilotage including no pre-programmed radar map or parallel index lines.
- 9.8 There was a lack of communication concerning the conduct of navigation in the approach to Calais.
- 9.9 The vessel was susceptible to the very strong on-shore wind, particularly from near the beam.
- 9.10 There was a lack of positive traffic control in the approach channel by Calais Port Control.
- 9.11 It is likely that the grounding would not have occurred if there was an additional light-buoy or beacon between CA5 Buoy and the harbour entrance to mark the southern boundary of the channel.

10. RECOMMENDATIONS

- 10.1 Ministere de l'Equipement, du Logement, des Transports et du Tourisme, Direction des Ports Maritimes et de la Navigation Maritimes is recommended to bring to the attention of Calais Port Authority the need:
- i. for an additional buoy or beacon fitted with radar reflector and light in a position about half way between CA5 buoy and Calais Harbour entrance;
 - ii. to introduce a greater degree of vessel traffic surveillance and control, bearing in mind the predicted future increase in vessel movements in the Calais approach channel and port.
- 10.2 Stena Line Ltd are recommended to consider this report carefully and, in the light of its findings and against the background of their existing comprehensive standing orders, to review their procedures and take what action might be considered necessary to ensure compliance.

Courtesy of Associated Press

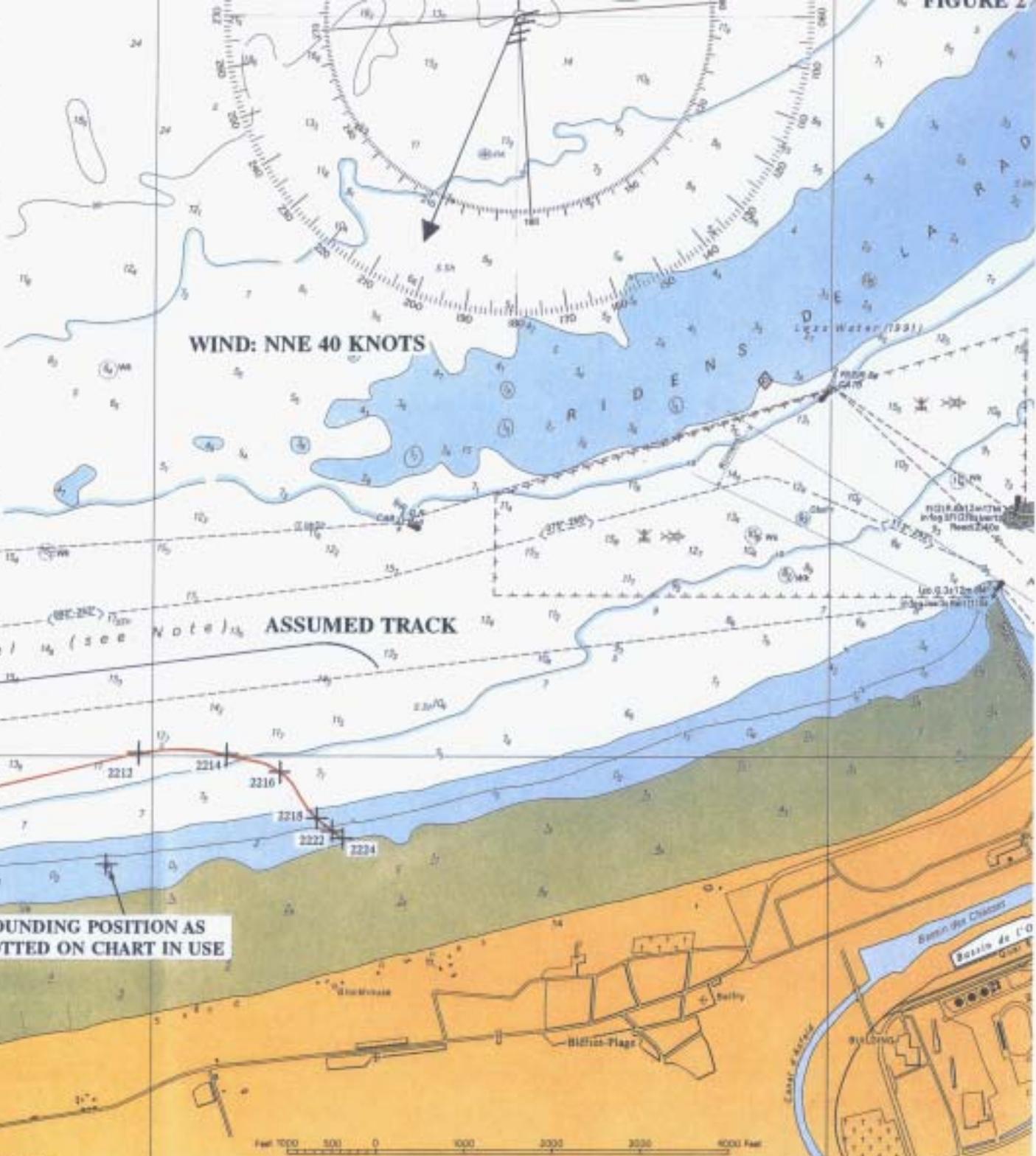


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FIGURE 1

STENA CHALLENGER - aground at Blériot - Plage

- 2206 hrs STENA CHALLENGER TO CALAIS PORT RADIO "AT CAE" : CALAIS PORT RADIO TO STENA CHALLENGER "TUG AVAILABLE, CALL AGAIN AT CAE"
- 2207 hrs VESSEL SLOWED TO 20% AHEAD PITCH; 10 MINS NOTICE TO ENGINE ROOM; PRIDE OF BURGUNDY TO CALAIS PORT RADIO "READY IN 5 MINS"
- 2210 hrs PRIDE OF BURGUNDY TO CALAIS PORT RADIO "TOP LINE", CALAIS PORT RADIO TO PRIDE OF BURGUNDY "OK TO SWING OFF BERTH WHILE EUROPEAN ENDEAVOUR ENTERS THEN OK TO LEAVE". CALAIS PORT RADIO TO STENA CHALLENGER "OK TO ENTER AFTER PRIDE OF BURGUNDY CLEAR"
- 2214 hrs PRIDE OF BURGUNDY TO CALAIS PORT RADIO "LEAVING BERTH NOW"
- 2216 hrs AHEAD PITCH INCREASED GRADUALLY; BOW THRUST STARTED; RUDDERS TO PORT
- 2217 hrs AHEAD PITCH BEING INCREASED; BOW THRUST TO PORT; RUDDERS HARD TO PORT
- 2218 hrs AHEAD PITCH BEING INCREASED FURTHER; BOW THRUST TO PORT; RUDDERS HARD TO PORT
- 2219 hrs FULL AHEAD; RUDDERS HARD TO PORT; BOW THRUST TO PORT
- 2220 hrs PRIDE OF BURGUNDY CLEARS HARBOUR ENTRANCE; FULL AHEAD; RUDDERS HARD TO PORT; BOW THRUST TO PORT
- 2224 hrs CALAIS PORT RADIO TO STENA CHALLENGER "IT'S GOOD FOR YOU NOW"; STENA CHALLENGER AGROUND



WIND: NNE 40 KNOTS

TIDAL STREAM: 1 KNOT

Approach Channel (see Note) ASSUMED TRACK

ACTUAL TRACK

GROUNDING POSITION AS PLOTTED ON CHART IN USE

Scale: Feet 1000 500 0 500 1000 1500 2000 3000 4000 Feet