Report on the investigation of the

near miss between

Pride of Cherbourg and *Briarthorn*

in the Eastern Solent

on

7 February 2001

Marine Accident Investigation Branch
First Floor
Carlton House
Carlton Place
Southampton
United Kingdom
SO15 2DZ

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Extract from

The Merchant Shipping

(Accident Reporting and Investigation)

Regulations 1999

The fundamental purpose of investigating an accident under these Regulations is to determine its circumstances and the cause 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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GLOSSARY OF ABBREVIATIONS AND ACRONYMS

ABP	Associated British Ports
ARPA	Automatic radar plotting aid
CHA	Competent harbour authority
CPA	Closest point of approach
DGPS	Differential GPS
DSC	Digital Selective Calling
GPS	Global Positioning System
HF	High Frequency
ISM	International Safety Management
kW	kilowatt
LOA	length overall
m	metre
PEC	pilot exemption certificate
QHM	Queen’s Harbour Master
ro-ro	roll on-roll off
RT	Radio Telephony
SSB	Single Side Band
UK	United Kingdom
UTC	Universal Co-ordinated Time
VHF	Very High Frequency radio
VLCC	Very large crude carrier
VTS	Vessel Traffic Service

SYNOPSIS

On the morning of 9 February 2001, the MAIB was informed of a near miss in the Eastern Solent between the passenger ro-ro ferry *Pride of Cherbourg* and the cargo ship *Briarthorn*. The two vessels came within about 80 metres of each other in the vicinity of the Warner buoy, at 2040 UTC on 7 February 2001. An investigation started, with MAIB inspector Andrew Clifton appointed the lead inspector.

Pride of Cherbourg was bound for Portsmouth from Cherbourg with 56 crew and 185 passengers on board. *Briarthorn* had left Cowes with a crew of six, bound for the Netherlands in ballast, and had dropped the Cowes pilot in the vicinity of the North Sturbridge buoy.

The master and a lookout were on the bridge of *Briarthorn*. The master was not familiar with the Solent and had been half expecting the pilot to take his vessel out to the Nab Tower, and was a little surprised when he disembarked by the North Sturbridge buoy.

Pride of Cherbourg was slightly to the west of her intended track due to her having passed a vessel anchored in St Helen's Roads. She observed the crossing vessel, and attempted to communicate by VHF but was unable to because of a prolonged conversation on VHF channel 12 involving another vessel. Having correctly assessed that if both vessels maintained their respective course and speed, *Briarthorn* would pass ahead at about 5 cables with a CPA of between 1 and 2 cables, she then altered her course to port by 10°.

Shortly after this, having altered course 20° to starboard in accordance with the pilot's advice, *Briarthorn,* with the Warner buoy abeam, made a substantial alteration to starboard having misinterpreted the situation and not realising that *Pride of Cherbourg* was in the process of altering her course to port.

Pride of Cherbourg put her helm hard to starboard and went full astern on her two operational engines. The transverse thrust canted her bow to port, closer to *Briarthorn*. The diesel bow thruster was then started, on full to starboard, which prevented the bow swinging any further to port.

The initiating cause of the incident was poor watchkeeping on *Briarthorn* which resulted in an inaccurate and scanty means used to assess if risk of collision existed. Further contributory causes were also identified.

This report makes recommendations which, if implemented, will reduce the possibility of a recurrence of this incident.

Photograph courtesy of FotoFlite

Pride of Cherbourg

SECTION 1 - FACTUAL INFORMATION

1.1 PARTICULARS OF VESSELS AND ACCIDENT

Vessel details

Name of vessel	:	*Pride of Cherbourg*	*Briarthorn*
Registered owner	:	P&O European Ferries (Portsmouth)	Fisher Shipping Services
Port of registry	:	Portsmouth	Liverpool
Flag	:	UK	UK
Type	:	Passenger/ro-ro	General cargo
Built	:	1975 in Aalborg Denmark	1980 in Lowestoft UK
Classification society	:	Lloyd's Register of Shipping	Lloyd's Register of Shipping
Construction	:	Steel	Steel
Length overall	:	143.67m	74.6m
Gross tonnage	:	14760	1576
Engine power and/ or type	:	10580kW	1765kW
Service speed	:	18 knots	12.5 knots
Other relevant info	:	Triple screw, twin bow thrusters	Single screw

Incident details

Time and date	:	2040 UTC 7 February 2001	
Location of incident	:	50° 43.7'N 01° 03.8'W (Close SE of the Warner Buoy, Eastern Solent)	
Persons on board	:	56 crew + 185 passengers	6 crew
Injuries/fatalities	:	None	None
Damage	:	None	None

1.2 BACKGROUND

Pride of Cherbourg was one of five passenger ro-ro ferries operated by P&O European Ferries (Portsmouth) Ltd between Portsmouth and France. She normally traded, along with another vessel, *Pride of Hampshire*, to and from Cherbourg. She was 25 years old and had a passenger capacity of 713. She could also carry up to 353 cars and 53 freight vehicles of 15 metres length.

She was fitted with triple engines and triple controllable pitch propellers. The starboard propeller turned in an opposite direction to the port and centre propellers. She was also fitted with twin bow thrusters, one 671kW (900 hp) electric, run off the centre main engine, and one 894.8kW (1200 hp) diesel, and a single counterbalanced rudder aft of the centre line propeller.

The Portsmouth-Cherbourg route was a busy service with each vessel usually making three round trips each day. The distance between the two ports is about 76 miles, and takes about 5 hours during the day and 7 hours at night to fit in with schedules. The passage crosses the central part of the English Channel. The Cherbourg vessels do not, usually, use the Nab approach or the New Grounds passage as normally used by the majority of vessels bound to and from the Eastern Solent. Instead, after departing Portsmouth, the vessels leave the main channel at the Warner buoy, pass across St Helen's Roads, to the east of Bembridge ledge, west of the West Princessa buoy and across Sandown Bay. This is the normal route for ferries and some other vessels bound to or from Cherbourg or the Channel Islands. When bound to Portsmouth the reciprocal route is followed. This saves about 2 miles instead of using the New Grounds passage and about 5 miles instead of using the Nab approach **(see Figure 1)**.

Briarthorn was a small general cargo vessel owned and managed by Fisher Shipping Services Ltd. She was 21 years old and was originally named *Craigallian,* being renamed *Briarthorn* in 1989. She carried a crew of six. She had a fixed conventional right hand screw propeller and had no bow thruster **(see Figure 2)**.

The certification issued in respect of both vessels was valid at the time of the incident and both were manned in accordance with their safe manning certificates. *Pride of Cherbourg* had full international safety management (ISM) certification, with a safety management system in place.

The Eastern Solent is a very busy stretch of water used by vessels bound to and from the Isle of Wight, Portsmouth and Southampton. It is also used by ferries running to France, Spain and the Isle of Wight, and naval vessels bound to and from Portsmouth. Fishing and recreation vessels are also frequently encountered in the Eastern Solent. The size of merchant vessels using the Eastern Solent ranges from small coasters to laden very large crude carriers (VLCCs).

Figure 1


Warner Buoy
Track of *Briarthorn*
Track of *Pride of Cherbourg*
Reproduced from Admiralty Chart 2045 by permission of the Controller of HMSO and the UK Hydrographic Office

Figure 2

Briarthorn

1.3 THE CREW

1.3.1 *Pride of Cherbourg*

Pride of Cherbourg's master was a 56 year old UK national, who had been at sea for 38 years. He held a class one (masters') certificate of competency and had been in command for 8 years. He had been with P&O (Portsmouth) for 15 years.

The officer of the watch, the 30 year old second officer, was a UK national, and had been at sea for 10 years. He held a class two (mates) certificate of competency and had been a second officer with P&O (Portsmouth) for 8 months.

It was the system on P&O (Portsmouth) vessels for the chief officers and above to hold pilot exemption certificates (PECs) for the port of Portsmouth. To gain experience in preparation for taking this certificate, and to increase their knowledge and skills generally, it was normal practice for second officers to have the conduct of the navigation in the approaches to Portsmouth, under the supervision and guidance of the master. As the second officers gained more experience they were allowed to take the vessel further and further into the pilotage area.

1.3.2 *Briarthorn*

Briarthorn had a crew of six, all Polish nationals, comprising of the master, chief officer, chief engineer and three seamen.

The master was 51 years of age and had about 9 years experience as master. He had a UK certificate of equivalent competency issued by the MCA on 9 January 2001, and also held a Polish masters' certificate of competency. He had been with the company since rejoining on 18 January 2001. He had been to the Solent once before.

1.4 BRIDGE EQUIPMENT

1.4.1 *Pride of Cherbourg*

Radars

Pride of Cherbourg had the following radars:

- Racal Decca 2070 BT (port side of bridge).
- Racal Decca Automatic Radar Plotting Aid (ARPA) S 2690 BT (starboard side) **(see Figure 3)**.
- Racal Decca RM 1690 (starboard side).

Figure 3

ARPA on *Pride of Cherbourg*

Communication equipment

There were two very high frequency radio (VHF) sets on the bridge, Sailor and Argonaut, and, in addition, in the chartroom were Sailor VHF DSC, VHF RT and HF SSB sets. It was the practice to keep the port VHF on channel 12 (Southampton VTS) and the starboard VHF on channel 11(Portsmouth VTS). The VHF in the chartroom was normally kept on channel 16.

Other equipment

- Leica DGPS MX 412
- Racal Decca MK 90 GPS
- Racal Decca Navtex 2
- Sperry MK-37 gyrocompass
- Decca Arkas autopilot
- Marconi echo sounder
- SAL log outputting water/ground information
- Rate of turn indicator Marine Data MD74
- Magnetic compass

1.4.2 *Briarthorn*

Radar

- Kelvin Hughes Nucleus 5000T **(see Figure 4)**.

Briarthorn did not have a gyro compass fitted, which required the radar to be kept in an unstabilised mode with ship's head up.

Communication equipment

A Sailor compact RT 2048 was located on the port side of the bridge. This was on channel 12 at the time of the incident. A Swiftech VHF set was on the starboard side of the bridge and was on channel 16 at the time of the incident.

Other equipment

- Valsat 02L GPS set
- Navitron autopilot with watch alarm
- Magnetic compass
- Echo sounder

Figure 4

Radar on *Briarthorn*

1.5 ENVIRONMENTAL CONDITIONS

The visibility at the time of the incident was in excess of 12 miles. The wind direction was south-south-west at a speed of 19 knots, which equates to force 5 on the Beaufort scale and sea conditions were good. It was cloudy, fine and clear.

High water at Portsmouth was at 2253, just over two hours after the incident. It was a spring tide, and the stream in the vicinity of the Warner buoy was setting north-westerly at about 0.4 knot.

1.6 NARRATIVE (all times UTC, all courses true)

Pride of Cherbourg left Cherbourg at 1619 on 7 February 2001 bound for Portsmouth, with her scheduled arrival being at 2115 that day. She had 185 passengers and 56 crew on board.

Briarthorn had discharged her cargo of 2240 tonnes of stone, which was loaded in Plymouth, at Cowes, Isle of Wight. She then had a delay of 5 days, spent alongside Medina wharf, Cowes, caused by engine room problems involving a leaking lubricating oil pipe. She was ready to sail on the evening of 7 February, and a passage plan, using the deep water channel to the Nab Tower was prepared.

The channel crossing on *Pride of Cherbourg* was uneventful, and the second officer came on watch at 1800. The vessel had all three engines in operation but, for mechanical reasons, the starboard engine was stopped between 1915 and 1930. The vessel continued on passage with her other two operational engines.

The Cowes pilot boarded *Briarthorn* at 1925. At 1930 she departed her berth, clearing Cowes harbour at about 1950. She turned to starboard, passing the Prince Consort buoy and into the main channel for the Solent. She stayed parallel and to starboard of the radar reference line. Just the master and pilot were on the bridge; automatic steering was engaged after the vessel passed the Prince Consort buoy.

At around 2005, *Pride of Cherbourg*'s master came to the bridge.

Just before disembarking *Briarthorn,* the pilot advised the master to change course to 140° after passing the Warner buoy, which involved leaving the deep water channel and crossing the New Grounds. The master was a little surprised that the pilot was not taking the vessel out to the Nab, but was happy for him to disembark by the North Sturbridge buoy. The pilot contacted Southampton VTS just before leaving the vessel, and informed them he was about to disembark. He also told them that he had advised the master to cross the New Grounds. At 2020, the pilot disembarked about 2 cables west of the North Sturbridge buoy, and the Cowes pilot launch transferred him to another vessel; a watchman came to the bridge at this time. Speed was increased to full manoeuvring, giving a speed of about 12 knots, and the vessel continued on a course parallel, and to starboard of, the radar reference line.

At 2021, *Pride of Cherbourg* passed to the west of the West Princessa buoy, and the second officer reported to Southampton VTS. VTS informed *Pride of Cherbourg* of three other vessels, *NYK Andromeda, Whitmariner* and *Briarthorn,* which was reported to be outbound by the North Sturbridge buoy. At this time the master and second officer were on the bridge with the helmsman and lookout.

At 2030, *Briarthorn* was at the reporting position between Horse Sand Fort and No Mans Land Fort, and the master reported his position to VTS. This was acknowledged and he was informed *"Pride of Cherbourg passing Bembridge ledge inbound".* The master noticed a ferry some distance off to starboard and a small coaster crossing on his starboard bow. He began to slow down to allow the coaster to pass ahead. The coaster then called *Briarthorn* on channel 12 and identified herself as *Donald Redford.* A "green to green" passing was agreed; speed was therefore increased back to full manoeuvring, and at 2035 *Donald Redford* safely passed around *Briarthorn*'s stern.

Pride of Cherbourg altered course to port and passed a vessel at anchor in St Helen's Roads at a distance of 2 cables at 2036. She then altered her course to starboard to 350° to regain her normal track as she was now slightly to the west. Her speed at this time was about 15.3 knots. The master was aware of the small vessel in the main channel crossing from port; it was acquired on the ARPA and he asked the second officer if he knew her name. The second officer said he did not, but thought she was the vessel to which *Donald Redford* had been talking. The master went to the port side VHF to call up VTS on channel 12, to establish the identity of the crossing vessel, but found the VHF channel occupied.

The large container vessel, *NYK Andromeda*, was outbound in the deep water channel to the east of St Helen's buoy with a Southampton pilot on board. Another smaller vessel was also outbound and ahead and to starboard of the container vessel, and the pilot was concerned that this vessel might impede his safe passage in the deep water channel. The pilot contacted VTS, obtained the vessel's name and attempted to contact her. The vessel did not reply, so VTS attempted to contact her and was successful. *NYK Andromeda* then spoke directly to the smaller vessel. The conversation was somewhat prolonged, during the course of which another vessel was told by VTS to stand-by. Channel 12 was occupied for the 2 minutes immediately before the incident.

The watchman on *Briarthorn* was on the bridge wing keeping a lookout. The master did not use the plotting facility on the radar as the visibility was clear and he was keeping a check on other vessels "by eye". He saw the ferry and was under the impression that she would pass ahead of him. He was not unduly concerned. At this time *Briarthorn'*s speed was about 11.5 knots and course 120°. The master was making frequent visits to the chartroom to check the ship's position and to complete plotting the intended courses as advised by the pilot which were different to those of the originally prepared passage plan. When the Warner buoy was just forward of the beam, the master altered course 20° to starboard in accordance with the pilot's advice. He was aware of the shallow water in the vicinity of the buoy, and assumed that the ferry, clearly showing a red sidelight, was now in a more head-on situation than a crossing situation. He thought he could see the ferry's green sidelight in addition to the red, and decided to alter course further to starboard once clear of the Warner buoy.

On the bridge of the ferry, the master had given up trying to contact VTS on the VHF because of the prolonged conversation involving *NYK Andromeda.* Both he and the second officer were closely monitoring *Briarthorn* visually and by radar, and observed it closing on the bow and appearing to be crossing ahead by about 5 cables with a CPA of between 1 and 2 cables. At 2038, the master told the second officer to *"come round and show him your green"* and the second officer duly altered course to port by 5° to 345°. At this time *Briarthorn* was about 6 cables away fine on the port bow. A few seconds after altering to 345° the master ordered 340° and the second officer complied.

Pride of Cherbourg's second officer then realised that *Briarthorn* was altering course and said to the master *"she's coming round".* The master exclaimed and ordered *"starboard 15",* closely followed by *"hard to starboard".* He also put the vessel's engines astern. The centre and port engines were in operation at the time, so the vessel canted to port due to the effects of transverse thrust. This effect was greater than that of having the rudder to starboard, which would have been less efficient anyway, because of the disrupted water flow to the rudder caused by having the propeller pitches set to full astern.

The master of *Briarthorn* then realised that the ferry was coming to port and continued to alter course to starboard while *Pride of Cherbourg* continued to slew to port. *Pride of Cherbourg*'s master realised he had shallow water to port, that *Briarthorn* was turning to starboard, and that his vessel was slewing to port as the speed was being taken off. Therefore, to keep his ship's head steady, he started the diesel bow thruster and used full thrust to starboard.

Briarthorn did not adjust her speed during the incident and passed ahead of the ferry at a closest point of approach (CPA), estimated to be around 80 metres at 2040. After the CPA was reached she altered course to port and passed to the south of the ferry, heading towards the Nab Tower across the New Grounds. *Pride of Cherbourg* took a few minutes to re-establish sufficient steerageway to enter the channel.

QHM Portsmouth called *Pride of Cherbourg* and asked if everything was all right because they could see that all way had been taken off the ferry. The master asked if they were aware of the name of the other vessel. QHM came back with the name *Briarthorn* after about 2 minutes.

Pride of Cherbourg arrived at Portsmouth about 30 minutes after the incident and *Briarthorn* continued on passage to the Netherlands, reporting to VTS as she passed the Nab Tower. The two vessels did not communicate directly with each other during the course of the incident. (**see Figures 5 - 11** for Southampton VTS radar pictures).

Reproduced courtesy of APB

Figure 5

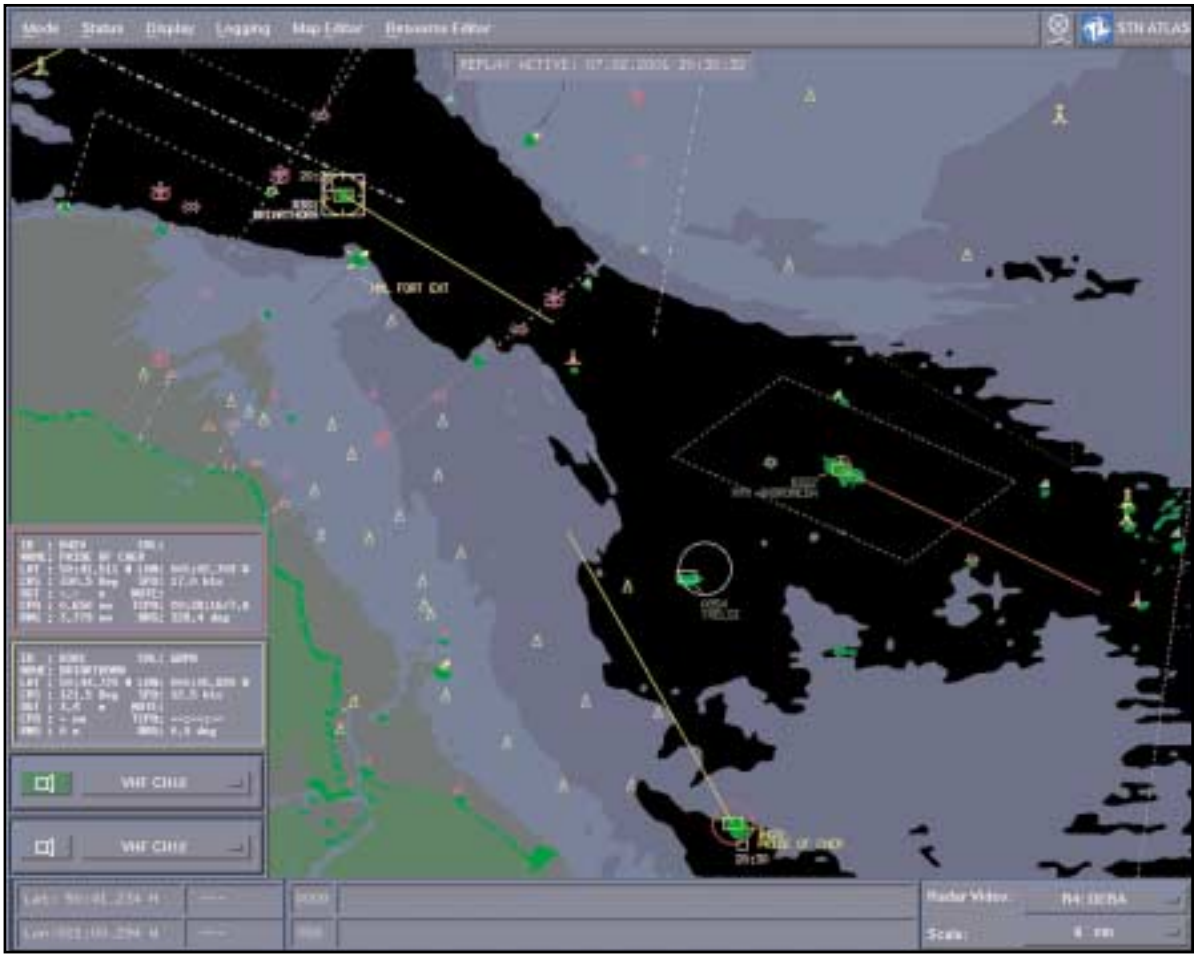
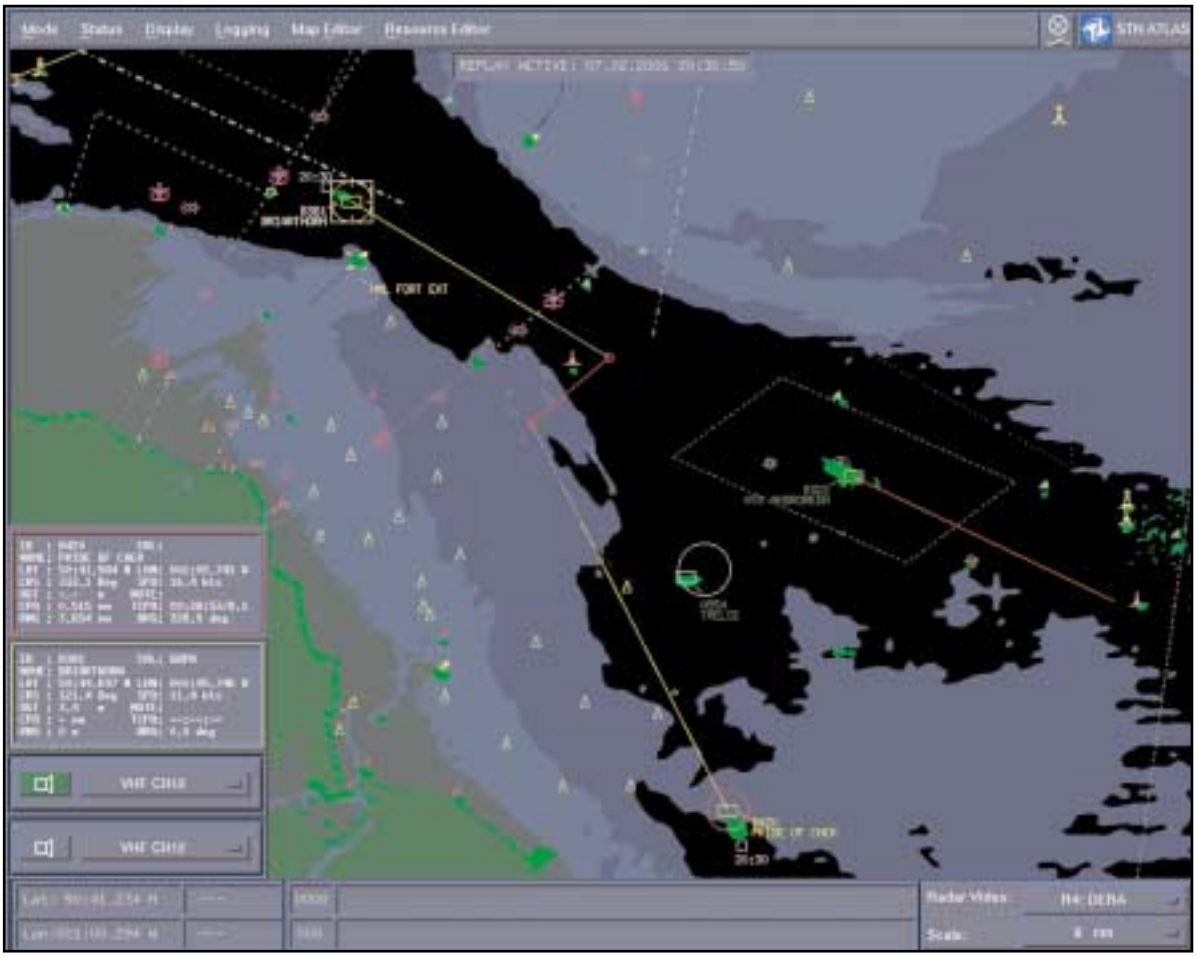


Figure 6



Southampton VTS Radar Pictures

Reproduced courtesy of APB

Figure 7

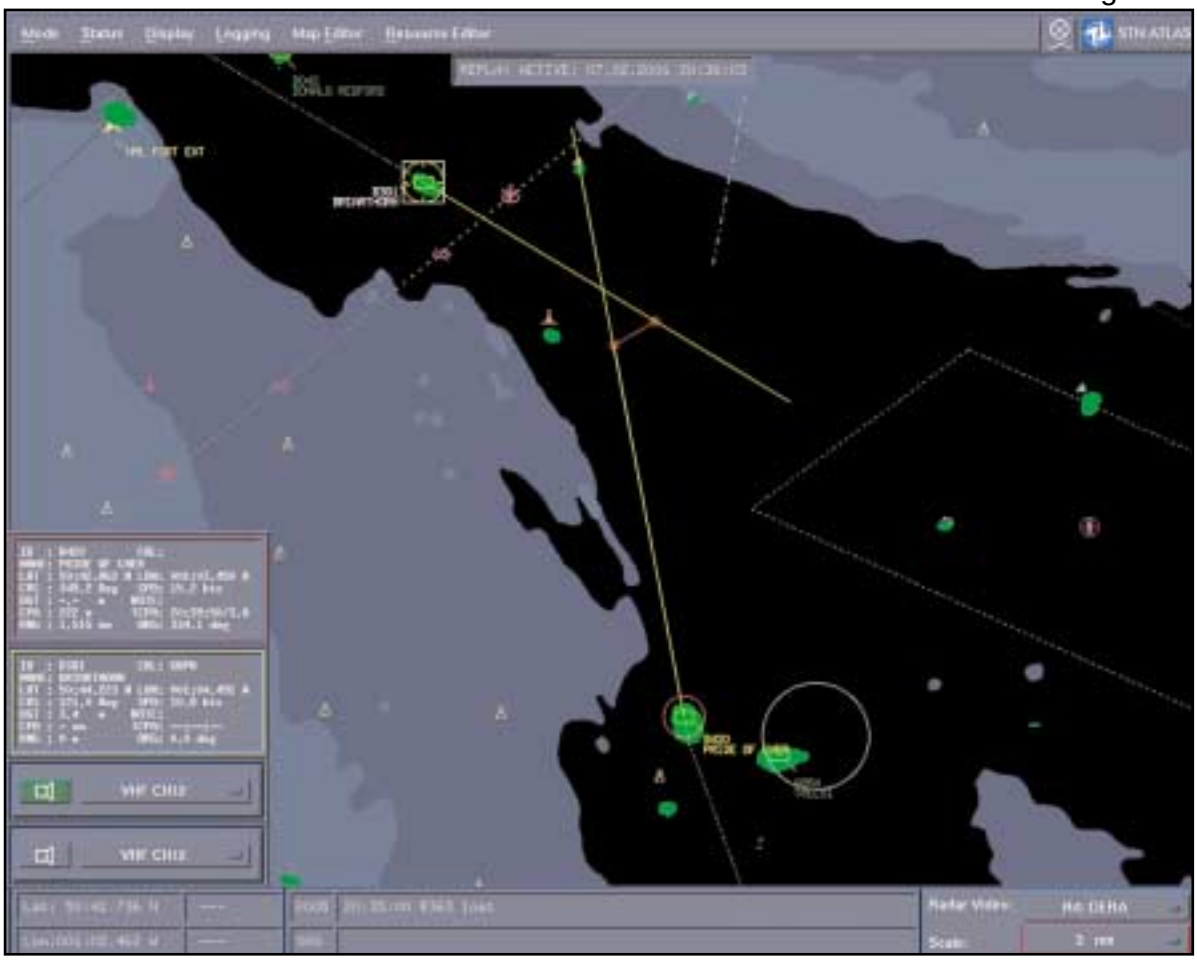


Figure 8

Southampton VTS Radar Pictures

Reproduced courtesy of APB

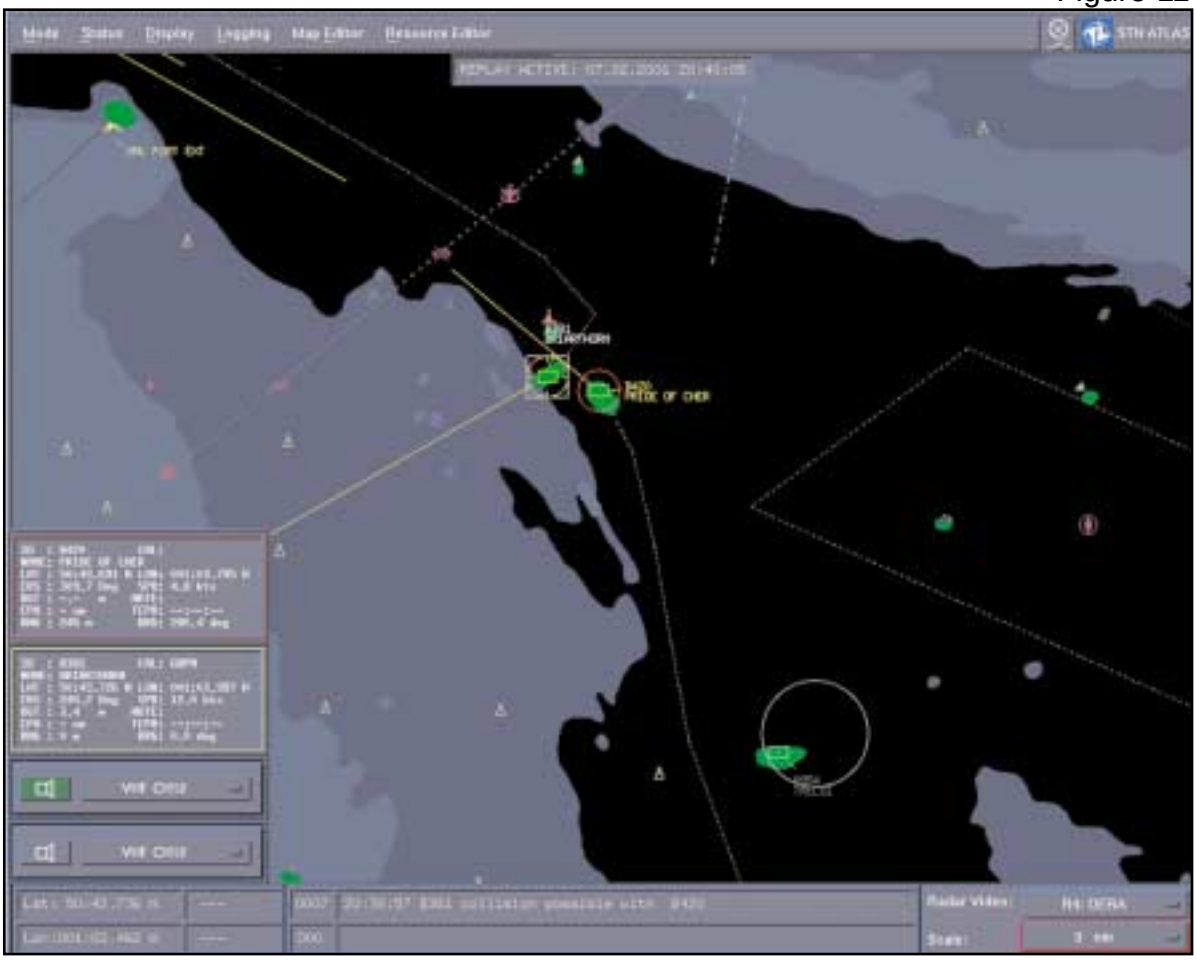
Figure 9

Figure 10

Southampton VTS Radar Pictures

Reproduced courtesy of APB

Figure 11



Southampton VTS Radar Picture

1.7 THE EASTERN SOLENT

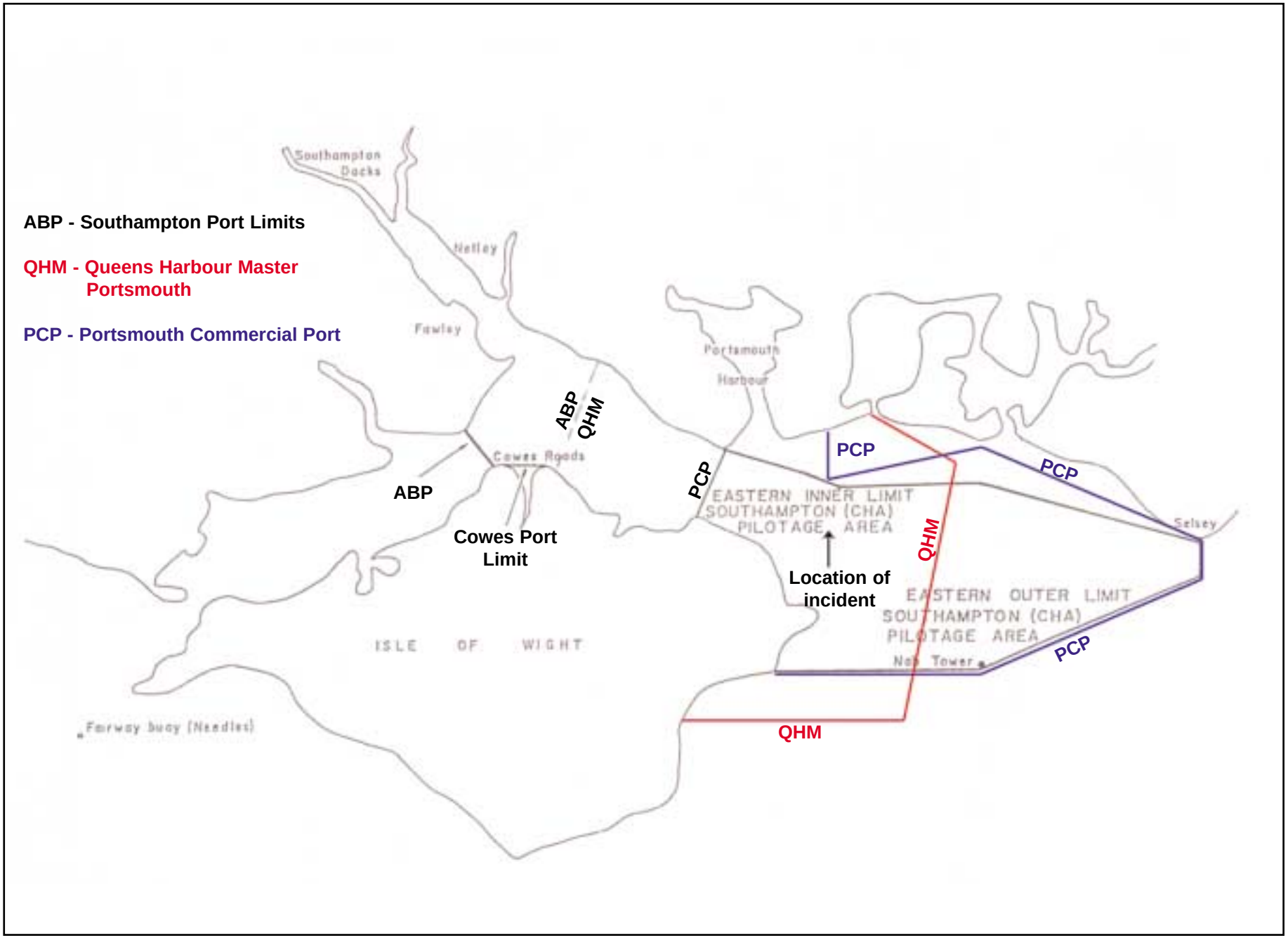
The Eastern Solent falls within the remit of four authorities, namely, Portsmouth naval port, Portsmouth commercial port, Cowes port and Southampton port **(see Figure12)**.

Portsmouth naval port

The Queen's Harbour Master (QHM) Portsmouth is not a Competent Harbour Authority (CHA) as defined by the 1987 Pilotage Act, but is a statutory harbour authority. It is the lead authority for navigation regulation and enforcement within its area. It is complying with the requirements of the Port Marine Safety Code, although it is not obliged to.

Portsmouth commercial port

Portsmouth commercial port is a municipal port owned by Portsmouth City Council. The limits of its CHA area overlap those of QHM and ABP within the eastern Solent. Portsmouth CHA issues PECs for the port and the Eastern Solent.



The Solent - Harbour Authorities / Port Limits

Figure 12

ABP Southampton

Associated British Ports (ABP) is the port operator for Southampton. The eastern outer limit of Southampton's pilotage CHA reaches to the Nab Tower and Selsey Bill. Southampton VTS coverage area extends to the Nab Tower. ABP issues PECs for the port of Southampton and its pilotage CHA area.

Cowes port

Cowes Harbour Commissioners is the designated CHA for the port of Cowes. Cowes pilots are authorised to perform pilotage duties south of the Bramble Bank, outside its own area, but within Southampton pilotage CHA area. In addition to the above four bodies there are local councils such as Gosport and the Isle of Wight which have bylaws concerning parts of the Solent which overlap into the areas also covered by these bodies.

The port of Southampton differs from Portsmouth commercial port in the extent of its harbour authority powers within the Solent. ABP is the statutory harbour authority for the port of Southampton, whereas the harbour authority for Portsmouth Harbour and the Eastern Solent is the Queen's Harbour Master (QHM). ABP and the QHM co-operate in administering shipping movements within the Eastern Solent, with ABP taking a co-ordinating role.

ABP, Portsmouth Commercial Port, and Cowes Harbour Commissioners are the designated Competent Harbour Authorities (CHA) for the Solent. All pilotage of commercial ships is undertaken by pilots licensed by the respective CHA. There are close liaison arrangements between the three CHAs and QHM Portsmouth over pilotage and navigational safety matters, and together they have formed the Solent Pilotage Co-ordinating Committee which meets every quarter.

Responsibility for safety of navigation in the Eastern Solent rests with the QHM, and by custom and practice traffic flow is regulated by ABP. This is largely due to Southampton port having the original VTS for the area and becoming, almost by traditional default, the accepted regulator for the Eastern Solent despite QHM having the responsibility for safety of navigation in the area. There is nothing formalised regarding this arrangement; for example, there are no written procedures or guidelines given by QHM to ABP with regard to how traffic should be regulated in the area. There are, however, plans to draw up a Memorandum of Understanding concerning this arrangement.

A small number of regular users of the Eastern Solent believed that a local unwritten "custom and practice" required vessels approaching the main channel to give way to vessels using the main channel.

The location of pilot stations is decided by the Solent Pilotage Co-ordination Committee.

The Sturbridge pilot station is for vessels between 61m and 150m in length not carrying dangerous cargo. For longer vessels, vessels carrying dangerous cargo, and when there is restricted visibility, the pilot station is moved further out to near the St Helen's buoy or to the Nab, dependent on the size of vessel and the cargo carried.

1.8 VHF CHANNEL 12

VHF channel 12 is the Southampton port operations calling and working channel. VTS maintains a continuous watch on this channel and five other channels. All vessels exceeding 20 metres in length, bound to or from Southampton or Portsmouth, and vessels using the Solent, are required to communicate with Southampton VTS at several reporting points by VHF channel 12.

This channel covers an area from Southampton container terminal to the Nab Tower; a distance of about 30 miles.

Smaller vessels, and recreation craft, are also advised to monitor this channel and communicate with VTS or the harbour patrol launch when necessary.

Routine navigational and traffic information broadcasts are also made on channel 12 by VTS. Ferries travelling within the Solent also call VTS on departure to inform them of the number of passengers on board. The Southampton – Cowes service operates around four sailings an hour. On occasions, when atmospheric conditions are favourable, Le Havre port (in France), which also uses channel 12, can be heard in the Solent.

Pilots, PEC holders, and other vessels, use this channel for ship to ship communication as it is a working channel as well as a calling channel.

The port of Southampton and the Eastern Solent has seen a steady increase in trade in the last few years, which has correspondingly seen an increase in the total number of vessels using the port. Last year Southampton had over 70000 vessel movements. This equates to about eight every hour.

1.9 VTS

Guidelines for Vessel Traffic Services are contained in IMO Resolution A.857(20) where Vessel Traffic Service (VTS) is defined as:

- a service implemented by a Competent Authority, designed to improve the safety and efficiency of vessel traffic and to protect the environment. The service should have the capability to interact with the traffic and to respond to traffic situations developing in the VTS area.

The Guidelines go on to define VTS as follows:

- VTS should comprise at least an information service and may also include others, such as a navigational assistance service or a traffic organisation service, or both.

The VTS station covering the Solent is operated by ABP and is based in Southampton. It co-ordinates the movement of all vessels of 20m LOA or over in the Solent and Southampton Water, excluding the Port of Portsmouth north of a line joining Gilkicker Point and Horse Sand Fort Light. Its radar service area extends from East Lepe buoy, Western Solent, to No Man's Land Fort in the Eastern Solent. In practice, however, the radar coverage is more extensive and continues beyond Nab Tower in the east. The VTS station is manned 24 hours a day by a minimum of three people, comprising one VTS officer and two VTS assistants. The station maintains a listening watch on VHF channels 12, 16 and 14.

Vessels entering the VTS area, moving within the area or outward bound must establish prior contact with VTS and provide information which is detailed in the Admiralty List of Radio Signals Vol. 6(1). Designated points have been established throughout the area at which vessels must report their progress to VTS. In this way VTS can identify the presence and intentions, and then monitor the progress of all vessels of over 20m LOA which are approaching and within the area. Additionally, the radar target of each identified vessel is flagged on the VTS radar screens. This gives the VTS operators the ability to monitor the traffic dynamics continuously.

When vessels report their progress and intentions to VTS, VTS acknowledges and usually responds with traffic information. On the evening of 7 February, when *Pride of Cherbourg* called to report her presence at West Princessa buoy, VTS informed her of all the traffic which was outbound, including *Briarthorn*, which was reported to be at North Sturbridge buoy. When *Briarthorn* was at the reporting position between Horse Sand Fort and No Man's Land Fort she was informed "*Pride of Cherbourg* passing Bembridge Ledge inbound". These reports were in accordance with general practice operated by VTS staff at Southampton.

Southampton VTS had informed each vessel of the presence of the other. Neither vessel properly documented this information and when, about 15 minutes later, *Pride of Cherbourg* felt the need to contact *Briarthorn* she had been unsure of the other vessel's name. In the normal course of events a call to VTS would have been sufficient to obtain this information but, at this time, VHF channel 12 was in use by the pilot of *NYK Andromeda* who was having a prolonged conversation with another outbound vessel. In the event, the channel did not become free in time, and contact between *Briarthorn* and *Pride of Cherbourg* was not established before the incident. For his part, the master of *Briarthorn*, being unfamiliar with the area, would not necessarily have

understood immediately where Bembridge Ledge was, or, for that matter, that *Pride of Cherbourg* was a ferry. The information passed to him, therefore, had been of little benefit. However, in any case, he had seen a ferry approaching from the south, the visibility was good and he was not concerned about the developing situation.

The VTS assistant who was monitoring the radars covering the Eastern Solent was aware of both vessels, and each had been flagged up on the radar system. Although the two vessels were converging, the situation was not remarkable, and her attention was mostly on other areas where critical manoeuvres were being undertaken, including four vessels which were positioning on approach to the Thorn Channel. The VTS assistant did not notice *Pride of Cherbourg* and *Briarthorn* closing until the radar targets of the two vessels were on top of each other. The VTS officer was also concentrating on the developing situation in Thorn Channel and his attention had been drawn to the prolonged conversation between *NYK Andromeda* and the other vessel. The VTS officer does not continuously monitor the situation in the Eastern Solent, however the VTS assistant will draw his or her attention to any matters of concern.

SECTION 2 - ANALYSIS

2.1 AIM

The purpose of the analysis is to determine the contributory causes and circumstances of the incident as a basis for making recommendations to prevent similar incidents occurring in the future.

2.2 BRIDGE PROCEDURES ON THE TWO VESSELS

2.2.1 *Briarthorn*

The master of *Briarthorn* had little experience of the area. Before this visit he had been to the Solent once before. His vessel was small, with a crew of just six with one other deck officer on board apart from himself. No gyro compass was fitted to his vessel; not a requirement for this size of vessel. Navigating with only a magnetic compass in congested waters is not an ideal situation; the compass error would have to be closely monitored and applied. The vessel used autopilot the majority of the time while underway and, at the time of the incident, was navigating using the autopilot with feed from the magnetic compass. The GPS was used to determine course made good.

The only radar on board was not a full ARPA but had to be used in “ship’s head up” mode of presentation because the vessel was not fitted with a gyro compass. This did not make taking bearings of crossing vessels easy, or accurate, due to yawing and small alterations of course. The radar had a plotting facility and cursor, but the master chose not to use it. It was possible to use the pelorus, fitted at the front of the bridge, for relative bearings, but the master considered this not practical and too cumbersome.

Determining if risk of collision existed on *Briarthorn* was not achieved easily or accurately; the master on this occasion was visually looking at crossing vessels, and lining them up against the bridge window frames or other fixed points over a period of a few seconds. This method was highly inaccurate. He should have used the pelorus, in conjunction with the magnetic compass heading, supplemented by information from the radar plotting facility and/or the cursor, before making any decision as to whether risk of collision existed.

Rule 7 (a) of the International Regulations for Preventing Collisions at Sea states:

“Every vessel shall use all available means appropriate to the prevailing circumstances and conditions to determine if risk of collision exists. If there is any doubt such risk shall be deemed to exist.”

Briarthorn was not complying with the first part of this rule.

Only the master and watchman were on the bridge at the time of the incident. The master sometimes had the chief officer on the bridge to assist him, for example during restricted visibility, but saw no need to on this occasion. The result was that he was fully occupied at the time of the incident. He had been half expecting the pilot to take his vessel out to the Nab before disembarking; his passage plan did not include the advice given him by the pilot to alter course at the Warner buoy and proceed across the New Grounds. He had to adjust his courses for this, as well as navigate the vessel through Spithead and make the report to VTS when passing the forts. He had the watchman on the bridge wing keeping a lookout, but that was his sole role; the master was responsible for determining if risk of collision existed.

The master had found himself in a unfamiliar stretch of water, with heavy traffic and shallow water close by; he would have been wise to have called the chief officer to the bridge to assist him. In such a busy stretch of water one person should be concentrating on the navigation only, regardless of the size of vessel.

The master was half expecting the pilot to take his vessel out to the Nab and was a little surprised when told he would be disembarking by the North Sturbridge buoy. The pilot advised him to leave the main channel by the Warner buoy and head over the New Grounds as the Nab channel is intended for deep draft vessels only. This was good advice, but gave the master little time to amend his passage plan and consider how he would execute the vessel's transit of these busy waters. He could have requested the pilot to take him out to the Nab. However the pilot was scheduled to board another vessel almost immediately.

The master had seen the ferry, and had been told about her by VTS. He was, initially, under the impression that she would pass ahead of him and was not unduly concerned. He was making frequent visits to the chartroom to check the ship's position and to complete the amendments to the passage plan. When the Warner buoy was just forward of the beam, the master altered course 20° to starboard in accordance with the pilot's advice. He was aware of the shallow water in the vicinity of the buoy. He then assumed that the ferry, clearly showing a red sidelight, was now in a more head-on situation than a crossing situation, and he thought he could see her green sidelight in addition to the red. He decided to alter course further to starboard once clear of the Warner buoy.

It is clear from the voyage data recorder on *Pride of Cherbourg*, and the VTS recording, that the master could not have seen the ferry's green light before altering to starboard, and that he was incorrect in his assessment of the situation.

He had incorrectly assessed it to be a head-on situation, when in fact it was a crossing situation with his vessel passing ahead of the ferry by about 5 cables. His was the give-way vessel if risk of collision existed and, if in any doubt, then

he should have assumed it to exist. He did assume it existed, but through very scanty information and for the wrong perceived situation. He was unable to alter course to starboard before the Warner Buoy because of the depth of water around the buoy, and altering to starboard appeared to be the correct choice. What he did not realise was that the ferry was about to alter course to port and had, correctly, assessed *Briarthorn* to be passing ahead and clear of the ferry.

The watchkeeping on *Briarthorn* was poor, caused by the workload of the single watchkeeping officer, who made frequent visits to the chartroom and used inaccurate and scanty means to assess if risk of collision existed. Had the master accurately monitored the approach of the ferry, he would have recognised that, contrary to his initial impression, *Briarthorn* would pass ahead of her. He might then have decided not to alter course to starboard until the ferry was past and clear.

2.2.2 *Pride of Cherbourg*

When *Pride of Cherbourg* passed the West Princessa buoy, the second officer reported into Southampton VTS. VTS informed *Pride of Cherbourg* of three other vessels, one of which was *Briarthorn,* which was reported to be outbound by the North Sturbridge buoy. The second officer confirmed to VTS that he had received this information, but did not write it down. It was normal practice for the information given by VTS to be written down on board, but on this occasion it was not.

When the situation with the unknown crossing vessel became apparent, the master wanted to know the name of the small vessel crossing from port so as to agree an action to result in safe passing. The vessel was believed to have been the same one talking to *Donald Redford* on channel 12 a few minutes previously, which she was. The name was still unknown. The master could have called the vessel using her position and course and speed, but this would have been unlikely to have had an immediate response, unlike calling up a vessel by her name. He attempted, therefore, to contact VTS to establish the vessel's name.

The prolonged conversation between the pilot on *NYK Andromeda* and another vessel, occupied channel 12 for the 2 minutes before the incident, and contact with VTS could not be made. If the name had been recorded earlier, the master could have made contact on another channel, such as channel 16.

The master of *Pride of Cherbourg* was one of a small number of regular users of the Eastern Solent who believed that a local unwritten "custom and practice" required vessels approaching the main channel to give way to vessels using the main channel. Consequently, if he considered there was a risk of collision, he would normally keep clear of a vessel in the main channel. There are no pilotage bylaws or regulations which state this, and it is a dangerous practice to assume that all vessels, including those without a pilot on board and unfamiliar with the area, are aware of this custom, which is contrary to the *International Regulations for Preventing Collisions at Sea* (Collision Regulations). Since this

incident, P&O Portsmouth has issued a circular to its masters with regard to this "custom and practice", recommending that if there is any doubt as to the actions or anticipated actions of others, the Collision Regulations shall prevail.

At 2038, as the two vessels were approaching each other, the master of *Pride of Cherbourg*, conscious of his belief that a local "custom and practice" required him to keep out of the way, said to the second officer *"come round and show him your green",* and the second officer duly altered course to port by 5° to 345°. At this time *Briarthorn* was about 6 cables away at fine on the port bow. A few seconds after altering to 345° the master of *Pride of Cherbourg* ordered 340° and the second officer complied. His alterations of course to port were intended to increase the CPA in the belief that *Briarthorn* would not alter her course to starboard. He was not aware there was no pilot on board *Briarthorn*. If risk of collision had existed, the master would have been in doubt as to what action he should take since he believed a local "custom and practice" required him to keep out of the way while the Collision Regulations required him to stand on.

In fact risk of collision did not exist, as *Briarthorn* was crossing ahead with a CPA of between 1 and 2 cables **(see Figure 8)**. However, the situation was, at the least, a close quarters situation, and could possibly be considered close enough for doubt to make the assumption that risk of collision did exist (Rule 7 (a)). This action would have been a 10° alteration to port by a vessel with another on her port side in a crossing situation. *Pride of Cherbourg* would have been the stand-on vessel and required to maintain her course and speed (Rule 17). By altering course to port by 10° she would have failed to have done so.

However, risk of collision did not actually exist, and a different interpretation would have been for Rule 2(a) to apply. Small vessels often leave the main channel at the Warner buoy to cross the New Grounds. *Pride of Cherbourg* had been unable to establish *Briarthorn's* intentions. In view of this uncertainty and the close proximity of *Briarthorn, Pride of Cherbourg's* master would have been wise to have taken the precaution of reducing speed, and not to have committed his vessel to the port alteration of course until *Briarthorn* was past and clear. He might have been more inclined to take this action if he had known there was no pilot on board *Briarthorn.*

The system on P&O Portsmouth vessels was for the chief officer and master to hold pilot exemption certificates for the port of Portsmouth. To gain experience in preparation for taking these certificates, and to increase their knowledge and skills generally, it was normal practice for second officers to have the conduct of the navigation, in the approaches to Portsmouth, under the supervision and guidance of the master.

This system had been used for many years, and was considered to be very effective in preparing deck officers for the Portsmouth PEC. The master, as the PEC holder, was considered to have the overall responsibility for the conduct of the navigation, but the second officer was physically in charge of the navigation for the purposes of undergoing training for pilotage, taking advice and guidance from the master as necessary. As the second officers gained more experience they were allowed to take the vessel further and further in to Portsmouth.

In this instance, the second officer was expecting to take the vessel to the Blockhouse, at the entrance to Portsmouth harbour, before the master took over the navigation. His progression was not recorded in writing, but was passed verbally to each master he served with.

The master could give advice, or even take back the navigation, at any time if the situation demanded it. The master "advised" the second officer to *"come around and show him your green"* which he duly did as he considered what the master said to be instructions, and not advice. The master considered he was giving the second officer advice, while the second officer considered he was being told what to do. This differing perception of instructions against advice could give rise to some hesitation, since the second officer was expecting the master to take action while the master was waiting for the second officer to take action. When it was realised that *Briarthorn* was altering course, the second officer did not give any helm orders himself, but he said to the master *"she's coming round",* expecting the master to make a helm order as it was a unusual and unexpected situation.

In the event, the master took over the navigation and made helm and engine orders almost immediately. However, the roles of each party during the bridge "training" do not appear to have been fully understood and agreed upon by both officers.

Portsmouth commercial port, which issues the PECs, requires the PEC holder to have the "conduct of the navigation" while the vessel is in pilotage waters. It is not clear if P&O Portsmouth's training arrangement meets this requirement.

When *Pride of Cherbourg'*s master saw *Briarthorn*'s alteration when she was almost right ahead, he put the helm to starboard, knowing he had shallow water to port, and that *Briarthorn* was turning to starboard with the intention of passing "port to port". He did not use whistle signals because he was concerned *Briarthorn* might alter course to port when the whistle was heard. He placed both his working engines astern, the starboard engine being under repair at the time. As the two engines in operation at the time were the centre and port engines, the vessel canted to port because of the effects of transverse thrust; these two propellers turn in a different direction to the starboard propeller. This effect was greater than the effect of having the rudder to starboard, which would have been reduced in effectiveness anyway, due to the disrupted water flow to the rudder caused by having the propeller pitches set to full astern.

Had all three engines been in operation, the vessel would probably not have had this pronounced slew to port when going astern on all engines. It was unfortunate that the starboard engine was not in operation at the time; the master did not consider the effects of the transverse thrust of the two operational engines. His first instinct was to place his engines astern in addition to altering course to starboard.

This resulted in the ferry's heading altering towards *Briarthorn* and decreasing the distance between the two vessels. The master could have left the engines unchanged and just applied full starboard helm. Putting the engines astern not only slewed the bow to port but disrupted the water flow to the rudder.

The two vessels came within about 80 metres of each other, and were extremely fortunate not to collide. If the master of *Pride of Cherbourg* had not used full thrust to starboard on the diesel bow thruster they might well have done so. At the time of the CPA, *Briarthorn* was making about 12 knots and *Pride of Cherbourg* had reduced to about 9 knots. The master's instinctive action to apply astern propulsion was understandable in the circumstances. However, if he had taken the precaution of reducing speed earlier to eliminate the possibility of a close encounter, he would not have had to rely on instinct in taking avoiding action.

2.3 THE EASTERN SOLENT

There are four authorities with differing responsibilities for the area where this incident took place. ABP regulates the navigation on behalf of QHM Portsmouth, which has responsibility for safety of navigation within the area. Portsmouth commercial port issued the PEC to the master of *Pride of Cherbourg,* and Cowes Harbour Commissioners supplied the pilot who had left *Briarthorn* by the North Sturbridge buoy. In addition, there are local councils and smaller harbours which also overlap into areas covered by some of these bodies.

With the different authorities, and their overlapping areas of jurisdiction, it is possible to have different regulations and guidelines for the same body of water. There is, however, close co-ordination and co-operation by the various bodies who meet quarterly as the Solent Pilotage Co-ordination Committee.

The position of the Sturbridge pilot station, rather than being the result of a formal risk assessment, is more historically-based. It is also convenient for the location of the pilot launch base at Gosport. It is considered to be safe for vessels below 150m length to embark and disembark their pilots there, but not for vessels longer than this, or ones carrying dangerous cargo. This means that vessels below 150m in length make the transit through Spithead without a pilot on board. This area is extremely busy, with shallow water on both sides of the channel, and ferries frequently crossing in addition to deep draught vessels, recreation, naval and fishing vessels. For the unfamiliar master, Spithead is considerably more daunting than navigating between Sturbridge and Cowes where a pilot is required.

Three types of vessels, with regard to pilotage, transit Spithead, namely, those with a pilot on board, those holding a PEC and those vessels not required to carry a pilot. There is no indication to other vessels, for example crossing vessels, whether or not a pilot is on board another vessel. Regular users of the area, such as ferry masters, may have some idea of the pilotage status of some vessels from past experience, or by estimating the length. By day, vessels with a pilot on board should be flying the “Hotel” flag in accordance with the International Code of Signals, but this would only be visible at close range.

The probability of this incident occurring would have been reduced if a pilot had been on board *Briarthorn*. A pilot would probably have correctly identified the situation involving *Pride of Cherbourg*. *Briarthorn* would probably not then have made the alteration to starboard by the Warner buoy.

The fundamental purpose of employing a pilot is for his local knowledge, which is currently deemed to be required for vessels carrying dangerous cargoes of any size, and for vessels longer than *Briarthorn* for the transit through Spithead.

This incident has identified advantages of employing a pilot on board vessels the size of *Briarthorn* for the transit beyond Sturbridge.

2.4 VHF

VHF channel 12 is the Southampton port operations calling and working channel, and is very busy. It covers an area from Southampton container terminal to the Nab Tower, a distance of about 30 miles.

Pilots, PEC holders and masters and skippers of other vessels, use this channel for ship to ship communication as it is designated a working channel, in addition to being a calling channel.

Vessels wishing to use this channel do, on occasions, have to wait until other vessels or VTS have finished using it.

The master of *Pride of Cherbourg* was unable to use the channel in the 2 minutes before the incident because of the conversation involving *NYK Andromeda*. Although the conversation was not continuous, he would have been reluctant to interrupt it, particularly as VTS had already told another vessel to stand-by. This was a contributory factor to the cause of the incident.

2.5 VTS

The traffic information which was passed by VTS to the two vessels, did not help to avoid the situation which developed in this case. This was partly because *Briarthorn* did not easily understand it, and because it was not recorded and used properly by either vessel. The principal purpose of the traffic information given to vessels by VTS is to ensure that they are aware of the names and intentions of the other vessels with which they might come into conflict. In this case, each vessel was aware of the other early in the developing situation and, although they were not aware of the other's name, if the Collision Regulations had been properly applied, a close quarters situation would have been avoided.

The VTS assistant who was monitoring the radars had other priorities during the time that *Briarthorn* and *Pride of Cherbourg* were closing. The situation did not warrant extra attention at that stage, and she was quite properly concentrating on other areas. Even had she noticed the two vessels at a later stage, until the very last minute there was little for her to be concerned about. *Briarthorn* was passing safely ahead of *Pride of Cherbourg* until she made the last-minute broad alteration of course to starboard. By the time the dangerous situation had materialised it was already too late for any warning by VTS to be useful.

SECTION 3 - CONCLUSIONS

3.1 FINDINGS

1. The certification issued in respect of both vessels was valid at the time of the incident, and both were manned in accordance with their safe manning certificates. [1.2]

2. *Briarthorn* and *Pride of Cherbourg* came within about 80 metres of each other in the vicinity of the Warner buoy in the eastern Solent at 2040 UTC on 7 February 2001. [1.6,2.2]

3. There were 185 passengers and 56 crew on *Pride of Cherbourg* and six crew on *Briarthorn* at the time of the incident. [1.1,1.6]

4. *Pride of Cherbourg* left Cherbourg at 1619 on 7 February 2001 bound for Portsmouth, with a scheduled arrival time of 2115. [1.6]

5. *Briarthorn* left Cowes at 1930 on 7 February 2001 with a Cowes pilot on board. [1.6]

6. The master of *Briarthorn* was not familiar with the Solent. [1.3.2,2.2.1]

7. The master of *Briarthorn* was a little surprised when the pilot told him he would be disembarking by the North Sturbridge buoy. [1.6,2.2.1]

8. At the time of the incident the weather was good, visibility in excess of 12 miles and it was just over two hours before high water on a spring tide. [1.5]

9. *Pride of Cherbourg*'s port and centre engines were operational at the time of the incident. The starboard engine was under repair. [1.6,2.2.2]

10. Immediately before disembarking, the pilot advised the master of *Briarthorn* to alter course about 20° to starboard at the Warner buoy and proceed across the New Grounds. This was not on the master's passage plan. [1.6,2.2.1]

11. The pilot disembarked *Briarthorn* at 2020. The master and a lookout were on the bridge. [1.6,2.2.1]

12. `At 2021 *Pride of Cherbourg* passed West Princessa buoy and reported to VTS. She was told about three other vessels, one of which was *Briarthorn*. [1.6]

13. At 2030 *Briarthorn* passed between the forts and reported to VTS. She was told *"Pride of Cherbourg passing Bembridge ledge inbound."* [1.6]

14. *Pride of Cherbourg* was slightly to the West of her intended track due to passing a vessel at anchor in St Helen's Roads. [1.6]

15. VHF channel 12 was occupied for the 2 minutes before the incident. [1.6,2.2.2,2.4]

16. The master of *Briarthorn* did not use the plotting facility or cursor on the radar or the pelorus to determine if risk of collision existed, and was making frequent visits to the chartroom. [1.6,2.2.1]

17. *Pride of Cherbourg*'s master was not aware that no pilot was on board *Briarthorn*. [2.2.2]

18. The second officer of *Pride of Cherbourg* was in charge of the navigation, for training purposes, while the master, as the PEC holder, had overall responsibility for the conduct of the navigation. [1.3.1,2.2.2]

19. When the Warner buoy was just forward of the beam, *Briarthorn'*s master altered course 20° to starboard in accordance with the pilot's advice. [1.5, 2.2.1]

20. The master of *Briarthorn* was under the mistaken impression that the ferry was in a more "head on" situation than a crossing situation, and decided to alter course further to starboard once abeam of the Warner buoy. [1.6,2.2.1]

21. *Pride of Cherbourg* had assessed, correctly, that *Briarthorn* was passing ahead by about 5 cables with a CPA of between 1 and 2 cables. [1.6,2.2.2]

22. *Pride of Cherbourg* altered course to port by 10º immediately before the incident. [1.6,2.2.1]

23. *Pride of Cherbourg* placed her two operational engines astern, and her rudder hard to starboard, when it was realised that *Briarthorn* was altering course. [1.6,2.2.1]

24. At the time of the CPA *Briarthorn* was making about 12 knots and *Pride of Cherbourg* about 9 knots. [1.6,2.2.2]

25. The transverse thrust from *Pride of Cherbourg's* engines slewed her bow to port and the water flow to the rudder was disrupted by the engines' astern movements. [1.6,2.2.1]

26. *Pride of Cherbourg's* diesel bow thruster was used to stop her head from slewing any further to port. [1.6,2.2.1]

27. The probability of this incident occurring would have been reduced if there had been a pilot on board *Briarthorn.* [2.3]

28. There is no indication to other vessels using the area, except for a pilot flag, whether a vessel has a pilot on board or not. [2.3]

3.2 INITIATING CAUSE

The initiating cause of the incident was poor watchkeeping on *Briarthorn* which resulted in an inaccurate and scanty means used to assess if risk of collision existed. [2.2.1]

3.2.1 Contributory causes

1. There was a single watchkeeping officer, with a lookout, on the bridge of *Briarthorn*. [1.6,2.2.1]

2. The master was required to amend his passage plan in accordance with the pilot's advice. [1.6,2.2.1]

3. The master of *Briarthorn* did not use the radar's plotting facility or cursor and the pelorus to assist with determining if risk of collision existed. [1.6,2.2.1]

4. *Briarthorn* was not fitted with a gyro compass. [1.4.2,2.2.1]

5. There was no pilot on board *Briarthorn*. [1.6,2.2.1,2.3]

6. *Briarthorn* altered course to starboard believing a risk of collision to exist.[1.6,2.2.1,2.2.2]

7. *Pride of Cherbourg's* master believed he was to keep clear of vessels in the main channel in accordance with his belief in the existence of a local "custom and practice" and that *Briarthorn* would not alter her course to starboard. [2.2.2]

8. VHF channel 12 was occupied for the 2 minutes before the incident. [1.6,2.2.2,2.4]

9. *Pride of Cherbourg* was not aware there was no pilot on board *Briarthorn*. [1.6,2.2.2,2.3]

10. The second officer of *Pride of Cherbourg* was told *Briarthorn's* name and position, but did not record it. [1.6,2.2.2]

11. *Pride of Cherbourg* did not reduce speed at an early stage and became committed to an alteration of course to port. [2.2.2]

12. The transverse thrust on the two engines in use on *Pride of Cherbourg* slewed her bow to port, towards *Briarthorn*, when placed full astern. [1.6,2.2.2]

13. The water flow to the rudder of *Pride of Cherbourg* was disrupted by her engines being placed astern reducing the effectiveness of the rudder being placed hard to starboard. [1.6,2.2.2]

SECTION 4 - RECOMMENDATIONS

Fisher Shipping Services is recommended to:

1. Review its operational procedures in the light of this incident.

2. Issue a circular to its masters emphasising the importance of increasing the size of the bridge team in confined and congested waters.

3. Circulate to its masters and deck officers the lessons to be learned from this incident. In particular, the use of all appropriate means to determine if risk of collision exists, the importance of comprehensive passage planning, ensuring a comprehensive master/pilot exchange before departure and the continuous monitoring of approaching vessels.

Associated British Ports (Southampton) is recommended to:

4. Implement measures to significantly reduce the amount of traffic on VHF channel 12.

5. Indicate whether vessels have a pilot on board or not when VTS is broadcasting vessel movements.

6. Ensure VTS has regard to the fact that the master may be unfamiliar with the area, when passing information to vessels without a pilot on board.

The Solent Pilotage Co-ordination Committee is recommended to:

7. Conduct a formal written risk assessment with respect to the location of the Sturbridge pilot station and, if required, its possible alternative location.

P&O (Portsmouth) Ltd is recommended to:

8. Seek clarification from Portsmouth commercial port that its training procedure in pilotage waters meets the CHA's requirements.

9. Circulate to its masters and deck officers the lessons to be learnt from this incident. In particular, being aware of the effects of transverse thrust when going astern, recording names of vessels as given by VTS and, if necessary, the need to reduce speed to confirm intentions before committing the vessel to a close quarters situation.

Queen's Harbour Master Portsmouth is recommended to:

10. Remind all vessels within its statutory harbour authority area, that they should at all times navigate according to the International Regulations for Preventing Collisions at Sea, using the findings of this report as the basis for doing so.

Marine Accident Investigation Branch
February 2002