THE SOUTHAMPTON MASTER MARINERS' CLUB

"HIGH SPEED - SAFE SPEED"

A Report on the
TECHNICAL SEMINAR
held at the Southampton Club-room
on
Wednesday 23rd April 2003

THE SOUTHAMPTON MASTER MARINERS' CLUB
ANNUAL TECHNICAL SEMINAR

"HIGH SPEED – SAFE SPEED"

Following a welcome from Captain Geoffrey Lee, Captain of the Club, the forty-four members and guests assembled in the Clubroom on the evening of Wednesday, April 23rd. heard Captain Cliff Brand, a Marine Accident Investigation Branch Inspector speak on the investigation of the collision between **DIAMANT** and **NORTHERN MERCHANT,** three miles SE of Dover on January 6th. 2002. – an investigation in which he was deeply involved.

The former – a high-speed wave-piercing catamaran is arranged to operate as a passenger and vehicle-carrying ferry on short domestic and short international voyages. With a complement of 18, her passenger capacity is 650 and she can carry 180 motor vehicles. Capable of a speed of 40 knots, her operational speed is 32 knots.

The latter vessel is a conventional ro-ro/passenger ferry capable of carrying 400 souls inclusive of her complement of 18, and 146 lorries. Her operational speed is 22.5 knots.

At 0743 on January 6th DIAMANT departed Oostende en-route for Dover. The visibility was 300/500 metres and, on clearing the piers, the automatic fog signal was activated and two lookouts were posted. In light traffic, speed was increased to 32 knots but at 0755 an engine malfunction reduced this to 24 knots. Repairs were successful and at 0850 she was again travelling at 32 knots. Having crossed the TSS she set course for the western entrance to Dover Harbour and shortly afterwards she heard NORTHERN MERCHANT request permission to depart from Dover Harbour. This granted, the ro-ro ferry cast off at 0930 and in visibility of 150/200 metres she immediately activated her automatic fog signal. Traffic prevented her immediate departure but, at 0940, she cleared the breakwater, increased speed and set course for Dunkerque. An inward bound ferry caused a speed reduction to 12 knots but once this was clear speed was increased to 20 knots and the auto-pilot engaged; the vessel heard DIAMANT requesting permission to enter Dover Harbour.

DIAMANT was told that the late departure of another ferry meant that her berth was not available so, at 0943, speed was reduced to 29 knots and the ETA amended.

At 0945, as DIAMANT passed the S.Goodwin Lt.Vessel the visibility deteriorated.

Each vessel had identified the other and was constantly plotting its movement by radar and ARPA. NORTHERN MERCHANT then engaged a helmsman and altered course 7/10 degrees to starboard. DIAMANT had estimated a "Closest point of Approach" as 2 cables and shortly afterwards this increased to 3 cables.

Fearful of the developing situation, NORTHERN MERCHANT ordered 20 degrees of starboard helm but aboard DIAMANT, the radar echo of the target having started to arc through 180 degrees, course was altered to port – 5 degrees initially then hard over. Almost immediately, DIAMANT saw the port side of NORTHERN MERCHANT emerge from the fog at a distance of some 50/150 metres and in an endeavour to increase her rate of turn she reversed her port engine.

At 0952 DIAMANT struck the port side of NORTHERN MERCHANT at a point slightly aft of amidships, her prow making contact first followed by her starboard wave piercer. Fortunately, the impact was lessened by the fact that both vessels were swinging away from each other so damage was light and there were no deaths or injuries aboard either vessel. DIAMANT subsequently berthed safely in Dover and

NORTHERN MERCHANT continued on passage to Dunkerque.

The fundamental purpose of investigating an accident under the Merchant Shipping Regulations 1999 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.

On January 6th, 2002, the MAIB was informed of the accident and an investigation began that day.

The Inspectors ascertained that as the vessels approached each other, with a CPA of 3 cables in fog, DIAMANT was travelling at 29 knots and NORTHERN MERCHANT at 21 knots. The former assumed, incorrectly, that it was a "green to green" passing situation and maintained course and speed whilst on board NORTHERN MERCHANT they fully expected DIAMANT to keep clear because of a perceived unwritten rule that high-speed craft keep clear of all other vessels at all times.

Once it became apparent to NORTHERN MERCHANT that this might not be the case that vessel made a small alteration of course to starboard and, as the situation rapidly worsened, she applied 20 of starboard helm. As the vessels closed radar arcing on DIAMANT meant that she could no longer plot the rapidly closing target and as the radar appeared to indicate danger on her starboard side she altered course to port.

Captain Brand said that the accident had raised three important safety issues:

1. The perceived unwritten rule that the high speed craft always keeps clear
2. The determination of a "safe speed" and
3. The extent to which reliance can be placed on radar for detection in restricted visibility.

Following a break to recharge glasses the seminar reconvened with, at the request of Captain Brand, the express purpose of discussing these three safety issues.
The Chairman for this session was Captain Reg Kelso.
The Chairman raised the matter of the perceived unwritten rule that "the high speed craft always keeps clear" and the first comment from the floor related to the possibility that both were "high speed ships". Captain Brand commented that the ability of DIAMANT to make 40 knots put her firmly into the HSS category but at 23 knots, NORTHERN MERCHANT would not be so classed. There was a general discussion on the "unwritten rule" and it was obvious that there was a degree of support that the more manoeuvrable should always keep clear – this was certainly so in the Solent and it had been accepted as such since the first hovercraft appeared on the scene. It was said that when changing from non-displacement to displacement mode the act of putting the engines astern had little initial effect. Despite this, the crash stopping distance of the HSS was some 463 metres, based on sea trials. At slow speeds the propulsion units can be employed to give a 360 turn in the vessels own length. The Collision Regulations, as they stand, would not permit the adoption of such a ruling and it was not the intention of the MAIB, following this enquiry, to make any such recommendation. There was some discussion on the various Rules in the Collision Regulations and several were of the opinion that any change would possibly exacerbate matters.
More disturbingly, there appeared to be a consensus that today's "commercial pressure" precluded any meaningful reduction in speed and many in the room related instances in the past 50 years when speed was maintained in reduced visibility in order to meet an ETA or, to be more precise, in order to obviate the financial penalties of failing to do so.
The Chairman remarked that the authors of log books preferred to use the expression "visibility reduced my mist patches " or "visibility variable" rather than use the word "fog" and that opinion was shared by many present. It was said that at least one winner of "The Blue Ribband" had been in fog for several days during her record-breaking run. A visitor said that he scrutinised log books relating to HSS passages and that if he uncovered any indication that the Master was departing from the Fleet Instructions he would not hesitate to "carpet" the Master and remind him of his responsibilities. Some present felt that "double standards" obtained insofar as operators issued instructions to safeguard themselves but the reality was that they expected the Master to maintain the schedule. Container ships missing "berthing slots" and cruise vessels missing their "turn around" posed many problems as did the demands of the cross Channel ferry traffic. Quoting the "Sleipner" accident and another involving a Mediterranean ferry, one speaker commented that a company could never hope to recover commercially from a serious accident involving loss of life. The question was asked that if there had been loss of life in the accident under discussion then would there have been possible "manslaughter" charges and the answer was an emphatic "yes". A member with considerable experience of Bridge Simulator training stated that the acceptance of a CPA of 2 cables in fog – based entirely on radar or ARPA information- was lunacy. The information provided by ARPA was largely "historical" and could be seriously misleading in a close-quarters situation. There was further general discussion on the practice (or otherwise) of reducing speed in fog and a surprisingly high number were of the opinion that little had changed over the years and that "scheduled" vessels had rarely made really meaningful speed reductions albeit taking all other precautions. A comment from the floor cast doubt on the need to sound fog signals as today's enclosed bridges – and the high noise levels associated with HSS – meant that many ships were unable to hear them. It was evident that there was no consensus on what construed "safe speed" when navigating in reduced visibility but it was almost universally agreed that in clear weather then the highly-manoeuvrable HSS should keep clear to obviate any possibility of a close quarters situation.
Finally, the seminar considered the extent to which reliance can be placed on radar for detection in restricted visibility and as many of those present were – or had been –engaged in training seafarers in the correct use of radar etc. there was a lively discussion. The fitting of ARPA was now commonplace and it is evident that few operators realise the limitations of this equipment insofar as it tends to relate "what was" and not "what is". A questioner asked why radio was not used in conjunction with radar or ARPA to facilitate collision avoidance and likened this to the FFI equipment fitted to aircraft. He was assured that the introduction of AIS dealt with this issue - using VHF but that it posed as many problems as it solved. Radar used correctly and with the total acceptance of its limitations was an invaluable tool in collision avoidance but it is not a panacea and, in the hands of an incompetent operator, could be lethal.
There followed a discussion on the penalties imposed on the seafarers involved in the accident and a member wondered if the imposition of a fine was more salutary than the cancellation of certification. It transpired that the proceedings leading to the suspension of a Certificate of Competency were protracted and expensive and that the "fast track" proceedings of a Magistrate's Court were to be preferred, although depending on the severity of the case then the cancellation or suspension of a certificate was never ruled out. There was general agreement that where loss of life was incurred and manslaughter charges were preferred then a custodial sentence was justified. The issue of "corporate manslaughter" was touched on briefly and it was agreed that the introduction of this might afford a degree of protection to the Shipmaster but only if he had acted in accordance with his Fleet Instructions and statutory requirements.
The Chairman invited Mr Walter Weyndling to briefly summarise the evening and, having done so, Walter thanked Captain Brand most warmly for having afforded us such an interesting and entertaining evening. These comments were met with warm applause from all present.