

MAIB SAFETY BULLETIN 1/2002

Grounding of product tanker

Willy

Cawsand Bay, Cornwall

1 January 2002

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This document, containing Safety Recommendations, has been produced for marine safety purposes only on the basis of information available to date.

The Merchant Shipping (Accident Reporting and Investigation) Regulations 1999 provide for the Chief Inspector of Marine Accidents to make recommendations at any time during the course of an investigation if, in his opinion, it is necessary or desirable to do so.

The Marine Accident Investigation Branch (MAIB) is carrying out an investigation of the grounding on 1 January 2002 of the product tanker *Willy*. The MAIB will publish a full report on completion of the investigation.

This is the latest of several groundings in recent years that have resulted from vessels dragging their anchor. This Safety Bulletin is issued to remind owners and masters of the procedures and precautions to be considered when anchoring, especially in confined waters when an anchorage becomes exposed to onshore weather conditions.



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SAFETY RECOMMENDATIONS

Background

The grounding of the product tanker *Willy* is the latest in a number of similar incidents that have occurred in UK waters in recent years. The circumstances of each have been very similar: a vessel anchors in what is judged to be a secure anchorage, but then drags when the weather subsequently deteriorates.

The Incident

Having discharged her cargo at Cattewater in Plymouth Sound on 30 December 2001, *Willy* shifted to a designated anchorage in Cawsand Bay to await orders. She anchored in a position nominated by the harbour authority in a depth of 9.6m. She used her port anchor with 4 shackles in the water, and this gave a stern swinging circle of 1.25 cables.

As an anchorage, Cawsand Bay is sheltered from all but south-east winds and the holding ground is mainly sand and broken shells. The nearest dangers to *Willy* were rocks some 4.25 cables to the north-west.

After anchoring, her position was established using radar ranges and bearings and, using the GPS receiver, a 3-cable guard zone was set around the position of the anchor. The main engine was shut down, but remained available for use within 10 minutes. A bridge anchor watch was kept throughout by an officer of the watch (OOW).

The conditions on the day after she anchored, 31 December, gave no cause for concern, with the wind blowing from the north-east force 3 to 4. By noon the following day, it had veered to the south-east and increased to force 7. Although the anchorage was now exposed and the conditions were less comfortable with the ship heading into wind and pitching in the increasing swell, her anchor appeared to hold.

At about 2240, on 1 January, the GPS guard zone alarm sounded. The OOW confirmed by radar that the ship was outside the guard zone and moving in a north-westerly direction and towards the shore. He called the master, who immediately ordered the main engine to be started, and then went straight to the bridge where he saw how close the shore was. He also noticed the GPS receiver displayed a speed over the ground of 1.2 knots. After ordering the OOW to go forward and heave in the anchor, he put the main engine to full ahead just as soon as it was available, but it was too late. Within seconds, the rudder and the propeller had struck the rocks. The time was about 2250.

She remained hard aground and was very badly damaged.

Comment

In an anchorage exposed to deteriorating weather conditions, a vessel will remain safely at anchor so long as there is sufficient scope on the cable and the anchor continues to bite. Mariners will readily understand, however, that in certain situations and especially in deteriorating weather, vessels at anchor run the risk of dragging.

In the incidents investigated by the MAIB it seems that a feature common to them all is that those on board failed to recognise what was happening until the vessel concerned had already begun to drag well outside the swinging circle. In many instances the speed, sometimes as much as 1½ to 2 knots, was such that the time available to take corrective action was insufficient to prevent the vessel running aground on a lee shore.

It is, therefore, imperative that when anchored in close proximity to any hazard, or in an anchorage that has become exposed and a lee shore is close by, that any movement outside the calculated swinging circle is detected immediately so that steps can be taken to remedy the situation.

Those charged with keeping an anchor watch must ensure that they are well placed to detect dragging as soon as it starts, even though they may have taken various precautions to prevent it. Whatever means is adopted to check the vessel's position it must be sufficiently foolproof to give an instant warning of movement. Too often watchkeepers believe their means of checking their vessel's position is adequate. Experience reveals that such optimism is often misplaced. Every second counts.

If dragging is detected or suspected watchkeepers must, in addition to calling the master, be prepared to take immediate action themselves. Bringing the engine to immediate notice, preparing to let out more cable, or even letting go the second anchor are basic precautions.

In deteriorating weather conditions, the situation should be reassessed and precautionary measures taken to meet the additional risk of dragging. It is often safer to be at sea than in an exposed anchorage with a lee shore close by.

Safety Recommendations

Ship owners and masters should:

- 1. Ensure that watchkeeping practices and electronic navigational aids are optimised to provide immediate detection of a ship dragging her anchor.**
- 2. Carefully consider the prevailing and forecast conditions when determining the amount of cable to be used when anchoring or when at anchor.**

3. Ensure that the availability of engines is appropriate to the proximity of dangers and the prevailing and forecast conditions when at anchor.
4. Consider using a second anchor, or at least having it available for emergency use.
5. Carefully reconsider the safety of the anchored position in deteriorating weather conditions.
6. Not hesitate to shift anchor berths, or put to sea when there is an unacceptable risk of dragging, particularly when anchored off a lee shore.