Safety Alert: Towage Accident - Lessons Learned Video

On 13 November 2024, the UK Marine Accident Investigation Branch (MAIB) published a report (17/2024) into the capsize and sinking of the tug Biter with the loss of two lives.

In Safety Bulletin 1/2026, MAIB note that Biter was the eighth investigation 'involving the capsize of a conventional tug since 1998, a series of accidents that has resulted in the loss of nine lives.'

MAIB has produced a video to promulgate the key safety lessons including:

- vessel masters, pilots and crews must communicate fully before connecting up
- they must conduct a comprehensive master/pilot and pilot/tug information exchange to share a detailed understanding of:
    - the capability of the tug being employed and the plan for use
    - their lines
    - their safe working loads
    - maximum speed that tug manoeuvres will be conducted; faster speed = greater force on towline = escalated risk
- a correctly rigged gob rope could prevent the tug being towed sideways and reduce the risk of girting; the rope must be taut, able to withstand the extreme forces that could be exerted on it and ensure that the towing point remains close to the stern of the tug
- keeping the tug's watertight doors and hatches shut during towing improves survival chances in the event of a girting incident

Link to the video: https://youtu.be/ByT__4koEbc

Appendix 1: Other Girting/Capsize Incidents

Girting and capsize of tug Domingue while assisting container ship with loss of 2 lives (2016)

The tug Domingue girted and capsized while assisting a container ship departing from the port of Tulear, Madagascar. Two of Domingue's five crew died.

Domingue had been connected to the port quarter to help pull the vessel's stern off the berth. During the manoeuvre, prevailing tidal conditions caused container vessel to move towards a mooring dolphin. To avoid striking the dolphin, the master briefly manoeuvred ahead. The pilot did not warn the tug that they would be coming ahead. As the vessel built up ahead speed, Domingue girted and capsized.

Safety Issues

- Domingue was less manoeuvrable than the port's normal tug which was undergoing maintenance, and its crew were inexperienced in assisting ships
- The tug was not fitted with a gob rope, nor did the towing point have any mechanism to release the tow in an emergency and doors and hatches on the tug were open
- The extent to which a plan for the departure had been discussed between the pilot and Domingue's skipper before commencement is uncertain, and during the manoeuvre no-one on board monitored the tug's position

https://www.gov.uk/maib-reports/girting-and-capsize-of-tug-domingue-while-assisting-container-ship-cma-cgm-simba-with-loss-of-2-lives

Girting and capsize of tug Ijsselstroom (2009)

Safety issues

- too heavy reliance on skipper's individual knowledge and experience; however, the skippers' knowledge and experience were never assessed
- inherently unstable mode of operation
- tow speed was too high
- lack of a bridle wire or gob rope - no physical safety device to prevent Ijsselstroom from girting when directional control of the tug was lost
- skipper had not been trained in the use of the emergency brake lift control
- pilot did not discuss the barge entry with the tug skipper and had no knowledge of the skipper's intended towing method or operational limitations

https://www.gov.uk/maib-reports/girting-and-capsize-of-tug-ijsselstroom-in-peterhead-bay-scotland

Girting and capsize of tug Flying Phantom while towing bulk carrier with 1 person injured and loss of 3 lives (2007)

The tug Flying Phantom girted and sank while acting as a bow tug. She was assisting a bulk carrier during a river transit in thick fog. Three of the tug's four crew were lost; only the mate managed to escape from the tug's wheelhouse and was subsequently rescued.

The investigation has identified a number of factors which contributed to the accident, including:

- the emergency release system for the towing winch operated, but not quickly enough to prevent the tug from capsizing
- no defined operational limits or procedures for tug operators when assisting/towing in restricted visibility.
- the routine observed by the tug's crew prior to towing or entering fog was ineffective, resulting in the watertight engine room door being left open and the crew not being used in the most effective manner once the fog was encountered.
- the port risk assessment was poor, and the few control measures that had been put in place after a previous similar serious accident in thick fog proved ineffective.
- reliance on ISO9001 quality management system audits to highlight safety concerns was fatally flawed.
- lack of an individual to fulfil the role of "designated person" had resulted in major shortcomings in the port's safety management system being overlooked.

https://www.gov.uk/maib-reports/girting-and-capsize-of-tug-flying-phantom-while-towing-bulk-carrier-red-jasmine-on-river-clyde-scotland-resulting-in-1-person-injured-and-loss-of-3-lives

Girting, capsize and sinking of workboat/tug Trijnie, while assisting petroleum products tanker, with loss of 1 life (1998)

On 8 September 1998 the workboat/tug Trijnie was assisting the petroleum products tanker to enter a lock prior to dry-docking. The tug girted, capsized and sank after attempting a turn to starboard. The coxswain was rescued after jumping into the water. A second crew member was trapped on board and died.

Safety Lessons

- Trijnie was allocated to a task for which she was ill-fitted, had never done before and without consideration at any time as to whether she

was capable of undertaking it.

- no risk assessment had been made for Trijnie to undertake stern tug operations with a vessel under way as on 8 September. Risk
- assessment for normal operation in Trijnie had been carried out and the
- relevant documentation was on board.
- the coxswain had no experience of the type of operation he attempted to undertake.
- the pilot was unaware of the tug coxswain's lack of experience

https://www.gov.uk/maib-reports/girting-capsize-and-sinking-of-workboat-tug-trijnie-while-assisting-petroleum-products-tanker-tillerman-in-approach-channel-to-milford-docks-port-of-milford-haven-wales-with-loss-of-1-life

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Appendix 2: Other towing related risks

Tug Access and Egress

Fall from tug Svitzer Moira with loss of 1 life

https://www.gov.uk/maib-reports/fall-from-tug-svitzer-moira-with-loss-of-1-life

Fall while boarding tug Millgarth with loss of 1 life

https://www.gov.uk/maib-reports/fall-while-boarding-tug-millgarth-with-loss-of-1-life

Struck by tow arrangements

Failure of towing arrangement on tug Englishman while towing general cargo vessel Germania with loss of 1 life (2008)

https://www.gov.uk/maib-reports/failure-of-towing-gear-on-tug-englishman-while-towing-general-cargo-vessel-germania-off-the-isle-of-wight-england-resulting-in-loss-of-1-life

Parting of tow rope on tug Retainer while towing barges with loss of 1 life

https://www.gov.uk/maib-reports/parting-of-tow-rope-on-tug-retainer-while-towing-barges-on-the-river-thames-england-with-loss-of-1-life

Mooring rope pulled from ro-ro cargo vessel Sea Centurion after becoming caught in propulsion unit of a tug, with loss of 1 life

https://www.gov.uk/maib-reports/mooring-rope-pulled-from-ro-ro-cargo-vessel-sea-centurion-after-becoming-caught-in-propulsion-unit-of-a-tug-during-unmooring-operation-at-portsmouth-naval-base-england-with-loss-of-1-life

Failure of towline pennant on tug Svitzer Mercurius with minor injuries to 5 crew

https://www.gov.uk/maib-reports/failure-of-towline-pennant-on-tug-svitzer-mercurius-with-minor-injuries-to-5-crew

Collision

Collision between tug Chiefton and its tow resulting in tug capsizing and sinking with loss of 1 life (2011)

12 August 2011, the tug Chiefton capsized and foundered following a collision with a crane barge she was towing on the River Thames, resulting in the loss of one crewmember.

Safety Issues

- the pilot and Chiefton's skipper lost situational awareness
- the risk assessment and passage plan focused on the bridge transit and did not cover the subsequent downriver tow
- all of those involved had very limited experience with the specific tug configuration used
- no one had been nominated to be in overall charge of the towing operation

https://www.gov.uk/maib-reports/capsize-and-sinking-of-tug-chiefton-after-a-collision-with-its-tow-at-greenwich-reach-river-thames-england-with-loss-of-1-life

Collision between ro-ro passenger ferry Stena Britannica and tug Fairplay 22 with loss of 2 lives

https://www.gov.uk/maib-reports/collision-between-ro-ro-passenger-ferry-stena-britannica-and-tug-fairplay-22-with-loss-of-2-lives

Collision between harbour tug Thorngarth and its tow chemical/oil carrier

https://www.gov.uk/maib-reports/collision-between-harbour-tug-thorngarth-and-its-tow-chemical-oil-carrier-stolt-aspiration-on-the-river-mersey-liverpool-england

Training on unfamiliar propulsion systems

Three significant collisions involving harbour tugs in 2005:

- a tug running stern first ahead of a merchant vessel lost control, turned broadside across the bow and was holed beneath the waterline.

- a tug guiding the stern of a merchant vessel moving stern first lost control, struck the stern, and ended with her tow line wrapped completely round her bridge superstructure.
- a tug attempting to pass a line to a merchant vessel underway lost control, ran in under the bow and struck the bulbous bow.

Fortunately, no lives were lost, but the consequences could have been much worse.

Common theme: experienced tug masters were operating an unfamiliar propulsion system for the first time on the particular manoeuvre. Each system required a very different thought process to manoeuvre the vessels effectively and safely compared to the systems they were accustomed to.

Although significantly experienced, they had received insufficient training and familiarisation with the systems they were using when the collisions occurred.

Safety lessons:

- Tug operators review their training schemes, to ensure that tug masters receive comprehensive familiarisation training before taking control of a tug which is equipped with a significantly different propulsion system.
- Incorporate instruction and validation on all manoeuvres that the tug master is likely to be tasked in the port.
- Harbour authorities, pilots and tug operators regularly review the capabilities and limitations of their harbour tugs and their crews, to ensure a common understanding of each tug's strengths and weaknesses.

https://www.gov.uk/maib-reports/safety-warning-issued-after-a-number-of-collisions-between-tugs-and-vessels-while-under-tow-or-escort-in-uk-ports

Flood/Sinking

Flooding and sinking of tug Adherence 1996

Safety issues

- operation took place in rough weather and demonstrated the limitations of a low freeboard harbour tug for such an operation. She was not a suitable choice for such an operation in the prevailing conditions
- the weather conditions during this operation were not good. Wind was force 6-7 and seas were rough. The conditions could have been foreseen.

https://www.gov.uk/maib-reports/flooding-and-sinking-of-tug-adherence-in-the-bay-of-biscay

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