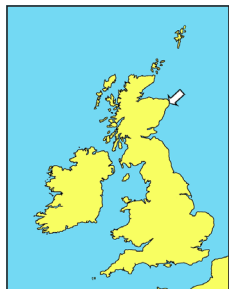


SYNOPSIS



The tug *Ijsselstroom* had been working on the construction of a new berth and breakwater in the Port of Peterhead. On the morning of 14 June 2009 she was tasked to act as a stern tug for the barge *Tak Boa 1*, which was arriving off the port with a cargo of 5000 tonnes of large rocks from Sweden.

Ijsselstroom's skipper chose to deploy her towline over her stern and intended to maintain position and heading relative to the barge by using differential ahead power on her two engines. A bridle wire was not rigged. As the lead tug increased speed, the skipper found that he was unable to control *Ijsselstroom*'s yawing motion effectively, and 5 minutes after connecting to the barge, the vessel took a large sheer to starboard, girted and capsized.

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

- Van Wijngaarden Marine Services relied too heavily on the individual knowledge and experience of its skippers to carry out a safe operation and did not have a formal staff training programme. However, the skippers' knowledge and experience were never assessed.
- For a conventional tug, towing over the stern, while running astern, is an inherently unstable mode of operation.
- The tow speed was too high to replicate earlier, successful entries using *Ijsselstroom* as the stern tug.
- The lack of a bridle wire or gob rope meant there was no physical safety device to prevent *Ijsselstroom* from girting when directional control of the tug was lost.
- *Ijsselstroom*'s skipper had not been trained in the use of the emergency brake lift control, had not tested it or witnessed its effect, and did not operate it when the tug got into difficulties.
- The pilot had not adhered to the port's procedures regarding risk assessments prior to the arrival of *Tak Boa 1*. Specifically, he had not discussed the barge entry with the skipper of *Ijsselstroom* and had no knowledge of the skipper's intended towing method or operational limitations.
- The Peterhead Port Authority's Safety Management System (SMS) had some inaccuracies that were not identified in the annual review and which could have prompted the pilot to select a more suitable tug for the task.

Recommendations have been made to Van Wijngaarden Marine Services to introduce a training programme for its skippers, review the suitability of its tugs for the tasks in which they may be involved and introduce the use of risk assessments and briefings as a standard operating procedure. Peterhead Port Authority has been recommended to audit actual working practices against those laid down in its SMS and to ensure that the operational limitations and working practices are understood when non Peterhead Port Authority tugs are working in the harbour. The British Tugowners Association and the UK port authorities have been recommended to promulgate the lessons learned from this accident to their members.