

General Cargo Ship Ta Chuan Major Marine Occurrence

Executive Summary

At 1400 on 1 August 2019, the Taiwan-flagged general cargo ship Ta Chuan, owned by Ta Chuan Navigation Co., Ltd., departed the Port of Kaohsiung bound for Wuqiu Port, Kinmen County. The ship's registry number was 014879, with a gross tonnage of 9921 and port of registry at the Port of Kaohsiung. On board were the master, 11 crew members, and 1 passenger. The ship was loaded with approximately 500 tonnes of general cargo and 300 tonnes of fresh water. Upon departure from the Port of Kaohsiung, the ship's forward draft was 3.4 m and aft draft was 4.2 m.

At approximately 2000 on 2 August, Ta Chuan sank at a position about 0.5 nautical miles south of Wuqiu Port (24°58.797'N, 119°26.965'E). All persons on board were safely rescued and transported to Wuqiu Island by rescue personnel. No injuries or fatalities occurred.

Ta Chuan arrived off Wuqiu Port at approximately 0730 on 2 August and anchored to wait for a suitable tide condition. After completing berthing operations at approximately 0930, cargo discharge operations commenced immediately. During cargo operations, the master was informed by crew members that seawater had entered the ship's bow thruster room. In an attempt to reduce the increase in draft caused by flooding, the crew used portable pumps to remove seawater from the compartment and also pumped out approximately 300 tonnes of fresh water from the ship. However, the flooding condition did not improve.

The master considered that continued flooding could affect the ship's ability to heave up anchor and that, if the ship sank alongside the wharf, port operations could be affected. Consequently, at approximately 1120, the ship departed the

berth and proceeded to an anchorage located about 0.5 nautical miles south of Wuqiu Island, where the ship anchored.

After arriving at the anchorage, the crew continued dewatering operations and used the ship's cargo gear to lift cargo from the cargo hold and jettison it overboard. As seawater had already overflowed into the cargo hold, causing the bow to become submerged, the master contacted the company and subsequently decided to abandon the ship. At 1823, the 12 crew members and 1 passenger were evacuated by rubber boats operated by Coast Guard Administration and military rescue personnel and transported safely to Wuqiu Island.

At the time of abandonment, approximately 10 tonnes of heavy fuel oil and 27 tonnes of marine diesel oil remained on board. The ship was not carrying any chemical substances or dangerous goods.

In accordance with the Transportation Occurrence Investigation Act of Taiwan and the relevant provisions of the Casualty Investigation Code of the International Maritime Organization, the Taiwan Transportation Safety Board (TTSB) was the independent agency responsible for conducting this marine occurrence investigation. The organizations and agencies invited to participate in the investigation included the Navy Command Headquarters, Ministry of National Defense, and the Maritime and Port Bureau of the Ministry of Transportation and Communications. This investigation report was approved by the 25th Board Meeting of the TTSB on 7 May 2021 and subsequently published.

After comprehensive investigation and analysis of the factual data, a total of 4 findings and 2 safety recommendations were obtained.

The investigation identified 4 findings:

1. The probable cause of the sinking of Ta Chuan was that the ship berthed at Wuqiu Port, which was not protected by a breakwater. During the berthing

operation, the ship was affected by swells, resulting in contact between the starboard-side bow thruster room hull plating or bow thruster tunnel and the wharf or seabed. The contact caused hull damage and seawater ingress. As the rate of flooding into the bow thruster room exceeded the pumping capacity, seawater overflowed into the cargo hold, causing the bow of Ta Chuan to become submerged before the ship ultimately sank.

2. The master of Ta Chuan proceeded with the berthing operation despite concerns regarding under-keel clearance and did not adequately consider the effects of swells.
3. After flooding occurred in the bow thruster room, the emergency measures taken by the master and crew of Ta Chuan did not effectively isolate all compartments connected to the flooded space, resulting in seawater overflow into the cargo hold.
4. The wharf at Wuqiu Port was a temporary wharf facility that was susceptible to the effects of swells and tidal variations, which affected the safety of berthing ships.

Safety Recommendations

To Ta Chuan Navigation Co., Ltd.

1. During berthing operations, carefully consider all potential hazard factors and conduct risk assessments. Conduct drills for various possible emergency scenarios in order to reduce potential losses.

To the Navy Command Headquarters, Ministry of National Defense

1. Assess the berthing risks for ships operating at the wharf at Wuqiu Port and establish relevant berthing regulations and procedures.

Note: The final report of this occurrence investigation is published in Chinese. To facilitate understanding for non-Chinese readers, the Executive Summary has been translated into English. While every effort has been made to ensure accuracy, discrepancies may occur. In the event of any inconsistency, the Chinese version shall prevail.