

# **General Cargo Ship Ta Shan Major Marine Occurrence**

## **Executive Summary**

At approximately 1430 on 31 July 2021, the Taiwan-flagged general cargo ship Ta Shan (Official No. 014061), with a gross tonnage of 1,673 and port of registry at Kaohsiung, grounded along the port-side shoreline while berthing at the North Wind Wharf, Wuqiu. As a result, the ship sustained damage to the port bow and experienced flooding in the engine room. No injuries or environmental pollution were reported in this occurrence.

In accordance with the Transportation Occurrence Investigation Act, Taiwan, and the definition of major transportation occurrences specified therein, the Taiwan Transportation Safety Board was the independent agency in charge of investigating the marine accident. The organizations and agencies invited to participate in the investigation included the Maritime and Port Bureau of the Ministry of Transportation and Communications, Navy Command Headquarters, Ministry of National Defense, Marine Corps Command, ROC Navy and Ta Shan Shipping Co., Ltd.

After comprehensive investigation and analysis of the factual data, a total of 9 findings and 4 safety recommendations were obtained.

### **The findings related to probable causes are as follows:**

1. Ta Shan was affected by strong southwesterly swell, resulting in difficulty in ship maneuvering and a tendency to drift toward the shore. The combined effect of wind pressure and wave action further pushed the ship to port. As a result, the head lines made fast ashore were subjected to excessive tension and could not be released, ultimately

leading to the ship grounding alongside the wharf.

2. The competent authority for the North Wind Wharf at Wuqiu did not provide adequate berthing facilities or alternative berthing arrangements. In attempting to comply with the limitations of the wharf, the master of Ta Shan deviated from standard shiphandling practice by not berthing head to wind and sea, which resulted in a beam-on condition that could not be recovered.
3. The North Wind Wharf at Wuqiu did not provide tug assistance services to support berthing operations under adverse sea conditions. Consequently, reliance on the master's shiphandling alone was insufficient to ensure safe berthing and instead contributed to the occurrence.

**The findings related to risk are as follows:**

1. In response to a previous case involving the Ta Chuan occurrence, the military authorities had drafted a proposed set of berthing operation guidelines for Wuqiu Wharf. However, up to the time of the Ta Shan occurrence, no formal written procedures or relevant training had been provided. As a result, the naval liaison officer was unable to verify the applicable safety standards for berthing operations, thereby affecting the safe navigation and berthing of ships at North Wind Wharf, Wuqiu.
2. During starboard-side berthing operations, the aft accommodation area is significantly affected by strong winds and swell. If shore-based mooring personnel are unable to coordinate the mooring operation in a timely manner, there is a risk that the ship may develop a beam-on condition and be unable to complete berthing safely.
3. Severe southwesterly winds and high swell conditions had already

created difficult berthing circumstances; however, the master did not exercise heightened situational awareness or take measures to delay port entry.

4. In the absence of a dedicated VHF radiotelephone communication system for berthing operations, and with shore-based mooring personnel being substituted by contractor workers, effective and timely communication during emergencies was not possible, thereby increasing the risk associated with mooring operations at the wharf.

**The other findings are as follows:**

1. Although the competent authority did not mandate that ships must berth on the starboard side, the operational circumstances effectively created pressure on the ship to do so. At the same time, no contingency arrangements for port-side berthing were provided by the shore authority, leaving the master without a clearly defined alternative berthing plan.
2. Following revisions to the draft operational procedures, the Marine Corps Command under the Navy Headquarters issued an official directive to the Wuqiu Garrison Battalion on 10 December 2021, implementing the “Implementation Rules for Maritime Transport Operations of the Wuqiu Garrison Battalion, Marine Corps.”

**Safety Recommendations**

**To Navy Command Headquarters, Ministry of National Defense**

1. Reassess the berthing and operational procedures for ships calling at Wuqiu Wharf. Based on current operational practices for civilian ships berthing at Wuqiu Wharf and military-assisted operations, confirm the

primary safety standards to ensure safe navigation and berthing at North Wind Wharf, Wuqiu. The safety criteria to be considered shall at least include:

- Draft limitations at the stern during low tide;
  - Minimum under-keel clearance requirements;
  - Wave height limitations affecting mooring operations at the wharf (including overtopping conditions);
  - Limitations associated with typhoon conditions and southwest swell height and period;
  - Respect for the master's professional judgment in determining the berthing arrangement at North Wind Wharf;
  - Confirmation of ship–shore communication procedures and mooring arrangements at North Wind Wharf.
2. Review the distribution of mooring bollards and multi-purpose berthing capabilities at North Wind Wharf, taking into account ship supply requirements such as freshwater replenishment and mooring operations. This includes evaluating improvements to shore-based facilities such as extending water supply pipelines at the wharf.
  3. Consult with relevant authorities and assess the feasibility of providing tug assistance services. During adverse meteorological and sea conditions, ships should be able to request tug assistance to enhance the safety of berthing and unberthing operations.

**To Ta Shan Shipping Co., Ltd.**

1. Strengthen the implementation of safety management within the fleet,

and promote the principle that when berthing at North Wind Wharf, Wuqiu under adverse weather conditions, safety shall be the primary consideration, adopting a conservative approach and actions to ensure the safety of self-conducted berthing and unberthing operations.

**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.