LNG carrier TAITAR NO.2 Major Marine Occurrence

Executive Summary

At about 0641 on October 23, 2024, the Panama-flagged Moss-type LNG carrier Taitar No.2 (IMO No. 9403645, gross tonnage 118634, length overall 289.5 m, beam 49.0 m) made contact with the north breakwater of the Port of Taichung shortly after passing the southern breakwater during departure. The vessel’s bow and the breakwater sustained damage, but no injuries or pollution were reported.

In accordance with the Taiwan's Transportation Occurrence Investigation Act and the Casualty Investigation Code of the International Maritime Organization, the TTSB is an independent transportation occurrence investigation agency responsible for conducting this investigation. The investigation team also included members from the Maritime and Port Bureau of the Ministry of Transportation and Communications; Taiwan International Ports Corporation, Ltd.; the Taichung Pilot Office; the NiMiC Ship Management Co. Ltd.; Taiwan Navigation Co., Ltd.; and the Panama Maritime Authority.

After comprehensive investigation and analysis of the factual data, a total of 12 findings and 4 safety recommendations were obtained.

The findings related to probable causes are as follows:

1. The master of Taitar No.2, concerned about a typhoon moving westward from the Philippines across the South China Sea and the potential impact on the vessel’s schedule, decided to proceed with departure after consultation with the pilots. Given the vessel’s large windage area, it encountered significant heading control difficulties under strong crosswinds during

departure. The main channel of the Port of Taichung, approximately 350 meters wide, offered limited margin for correction when the vessel began to sheer. Despite applying maximum rudder angle and increasing engine power, the master was unable to regain effective heading control, and the vessel ultimately made contact with the north breakwater.

2. Although the master attempted to mitigate wind pressure by increasing speed earlier in the departure, the investigation found no evidence that a structured risk assessment had been conducted to identify the potential limitation of heading control under strong wind conditions. In the absence of clear procedural guidance, the master, faced with both weather-related risks and schedule pressures, had limited practical ability to make a decision that prioritized safety.

The findings related to risk are as follows:

1. The current Taichung Port Vessel Traffic Service Guidelines specifies weather restrictions for LNG vessel arrivals but does not define clear limits for departures. On the day of the occurrence, wind speeds exceeded the inbound threshold prescribed for LNG vessels, yet no restrictions were applied to outbound operations. As a result, the decision to depart was left entirely to the master’s judgment under prevailing conditions.

2. Although Taitar No.2 had a passage plan, the master did not conduct an evaluation of the strong wind conditions on the day of departure in accordance with the company’s risk management procedures. The management company had not established a notification mechanism or a shore-based decision-support process for adverse weather conditions, leaving the master to independently determine whether to depart. As a result, the decision-making process lacked clear institutional support.

3. On the day of the occurrence, the master requested the pilot to disembark

earlier than usual in order to increase speed against wind pressure. This reflects that the Taichung Port Vessel Traffic Service Guidelines for LNG vessel departures did not incorporate weather conditions and pilot disembarkation risks into an integrated decision-making framework, nor did they provide alternative procedures for specific scenarios. The request for early pilot disembarkation due to wind pressure demonstrated that the existing guidelines were difficult to fully apply in practice, requiring adjustments based on individual experience and thereby reducing the intended risk control and screening function of the regulatory framework.

4. Prior to disembarkation, the pilot provided the master of Taitar No.2 only a brief suggestion to increase speed after the pilot's departure, without further explanation of potential crosswind effects, maneuvering difficulties, or heading control strategies in the main channel, nor sufficient clarification of related operational considerations. The master was also not fully informed of tug support arrangements and communication protocols, and as a result was unable to establish effective communication with the tugs in time before the occurrence. This indicates that the transmission of handling risks and coordination methods requires further strengthening, particularly in waters where pilot expertise is critical, and that the transfer of essential information prior to disembarkation is of paramount importance.

The other findings are as follows:

1. Steering gear, main engine, and navigation equipment were operating normally at the time of the occurrence.
2. The master, on-watch crew, and pilots all held valid certificates issued by the vessel's flag state or competent authority.
3. At the time of the occurrence, the master of Taitar No.2, the watchkeeping officers, and the pilots did not exhibit signs of insufficient rest or fatigue.

Although the chief officer and third officer reported feeling heightened stress in the days prior to the occurrence due to preparations for ship inspections, there was no evidence that their mental state had a substantive impact on the occurrence.

4. The wind at the head of the north breakwater was recorded at an average of 52 knots, with gusts reaching 62 knots.
5. According to tug operation principles, tug effectiveness declines significantly when the assisted vessel's speed exceeds 5 knots. Existing port procedures and tug deployment protocols did not reflect this operational constraint, thereby reducing tug effectiveness during the critical phase of the maneuver.
6. At the time of the occurrence, the pilot disembarked early at the master's request and continued to provide handling advice via VHF after leaving the vessel. Current regulations do not clearly define the flow of information or the supporting role of pilots once pilotage is considered complete. In practice, pilot disembarkation is generally regarded as the end of pilotage operations, but no consistent operational standard has yet been established. In light of the recently announced compulsory pilotage area, it may be necessary to further review whether additional institutionalization of roles and responsibilities is required in order to enhance overall coordination and the effectiveness of navigational safety management.

Safety Recommendations

To the Maritime Port Bureau. MOTC

1. Review pilot-to-bridge handover procedures prior to pilot disembarkation to ensure that critical operational and navigational information is fully conveyed, thereby assisting masters in maintaining risk awareness and preparedness in restricted waters or adverse weather conditions.

2. Evaluate the need for clear operational guidance on pilot support and role definition following early disembarkation in compulsory pilotage areas or designated adverse-weather disembarkation zones, in order to ensure clarity of responsibilities and effective risk management.

To the Taichung pilot office

1. Strengthen and implement pilot-to-bridge handover procedures prior to pilot disembarkation to ensure that critical operational and navigational information is fully conveyed, thereby assisting masters in maintaining risk awareness and preparedness in restricted waters or adverse weather conditions.

To the Taiwan International Ports Corporation

1. Review current weather restriction criteria for LNG vessel departures, taking into account international LNG port risk management practices, and consider incorporating pilot operational requirements and tug assistance roles into the regulatory framework in order to establish clear departure conditions and procedures for LNG carriers.

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.