Container Ship HYUNDAI TOKYO Major Marine Occurrence

Executive Summary

At 0905LT on March 20th, 2023, a Cyprus-registered container ship Hyundai Tokyo, IMO number 9305673, with a gross tonnage of 74651, LOA 303 meters, a width of 40 meters, and a total container capacity of 6,987 TEU, entered the No.2 entrance of the Kaohsiung Port and contacted berth 77 during berthing, causing damage to the ship's bulbous bow and the berth itself. No casualties or environmental pollution resulted from this occurrence.

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 Port Bureau of the Ministry of Transportation and Communications, the Taiwan International Ports Corporation Ltd., the Kaohsiung Port Pilot Office and the Taiwan Maritime Services Limited. (representative of shipowner Navios Shipmanagement Inc)

After comprehensive investigation and analysis of the factual data, a total of 14 findings and 10 safety recommendations were obtained.

The findings related to probable causes are as follows:

1. The pilot on the day of the occurrence had a blood alcohol concentration exceeding the standards recognized by the domestic and international transportation industries and related regulations as "not fit for safe navigation." It was assessed that due to the pilot's alcohol-induced effect, there was a delay in reaction during the navigation and operation of the

vessel.

2. When the pilot was navigating the Hyundai Tokyo into the No. 2 entrance of Kaohsiung Port, the ship's speed was 7.4 knots. Upon being alerted by the tugboat captain about the excessive speed, the pilot initiated a reduction in speed. After passing the VTS tower, the ship's captain reminded the pilot to initiate a turn. Subsequently, the pilot ordered a hard starboard, indicating delayed decision-making during piloting. This resulted in the ship's inability to promptly reduce speed and initiate the turn, ultimately leading to the ship making contact with the berth, resulting in damage to both the ship and the berth.

The findings related to risk are as follows:

1. The pilot navigating the Hyundai Tokyo toward the berth, and as the bow gradually approached the pier and the distance shorted, the decision to apply reverse thrust was delayed, and no emergency anchoring was deployed to restrain the ship's forward speed during the process.

2. Before the Hyundai Tokyo contacted the berth, it did not have tugboats on towlines, resulting in the inability to provide immediate assistance to reduce speed. This shows that the pilot did not utilize tugboats effectively in this berthing plan.

3. During the Hyundai Tokyo's maneuver to turn starboard in the turning basin of the No. 2 entrance of Kaohsiung Port at a higher speed (6.3 knots), when the ship initiated a portside turn, the captain of the Hyundai Tokyo did not question the pilot's decision during this process. Before making contact with the berth, the captain verbally reminded the pilot to take more effective measures but did not take over the ship’s control when the emergency situation occurred.

4. If the bridge team of Hyundai Tokyo proactively followed the relevant provisions of IMO Resolution A.960(23) regarding the responsibilities of the master, officer of the watch, and pilot, as well as the relationship between the master and the pilot, by conducting effective information exchange during the pilotage process, assessing the feasibility of the pilot's berthing plan, monitoring the contents of the pilot's berthing plan, and taking assistance or taking over actions during the pilotage process, it may reduce the risk of occurrence.

5. The domestic authority of maritime affairs has not regulated the composition and legal status of pilot offices. Each pilot operates independently without hierarchical relationships among them. Additionally, the pilot offices have not established internal control or safety management regulations or systems, nor has the Maritime Port Bureau of the Ministry of Transportation and communications imposed any requirements in this regard. As a result, the pilot offices lacked explicit rights and obligations in terms of supervising, managing, and assessing the pilots under their jurisdiction. They also lacked legally binding force, thus unable to effectively fulfill their management functions.

6. If Kaohsiung Port has relevant regulations regarding the standby positions for tugboats, requiring vessels to have tug assistance and provide support before entering the turning basin, and also to quickly offer assistance in emergencies, it would help reduce the risk of occurrences.

7. The pilot did not engage in effective information exchange with the bridge team of Hyundai Tokyo after boarding, failing to meet the requirements of IMO Resolution A.960(23) regarding the information exchange between the master and the pilot. This lack of information exchange could increase the risk of maneuvering occurrences in the port.

8. The pilot involved in 3 occurrences (including the current one) within the past 6 months can continue practicing under the current system in our country until the occurrence investigation concludes. However, the current practice of the Maritime and Port Bureau of the Ministry of Transportation and communications lacks a regular safety supervision, management, and audit system for pilot offices. There is no regular occupational assessment or skill certification for pilots during employment, and there are no restrictions on practicing for those who fail the assessment or certification. This has resulted in the Maritime and Port Bureau being unable to fully understand and ensure the occupational suitability of pilots and effectively exercise its supervisory and management functions.

9. Our country lacks standards and regulations regarding alcohol concentration and alcohol testing for pilots on duty. Although after the occurrence, the supervising authority issued administrative orders requiring pilots in each port area to undergo alcohol testing before each shift, the detailed execution rules and penalties are still in the planning stage.

10. Our country's current medical examination for pilots lacks comprehensive standards, fails to provide guidance on medical examination for pilots to explain the methods and principles of examination, and does not require medical examiners to understand the examinee's medical history including medication and treatments, treatment outcomes and complications, side effects of treatments, and alcohol use. These may lead to a variation of examination procedures by different hospitals and thus examination results may fail to ensure the fitness of pilots to safely perform their duty, thus affecting pilotage safety.

The other findings are as follows:

1. The fatigue risk assessment analysis results indicate that pilots on night shifts

may experience disruptions in their circadian rhythms and daily routines, making it difficult to recover from fatigue after duty. Compared to other shift types, continuous night shifts significantly increase the likelihood of high fatigue levels during duty.

2. Our country's maritime administration, lacks dedicated maritime administrative investigation personnel at the moment. The administrative investigators currently handle multiple duties and are unable to fully devote themselves to maritime investigations. This situation may have a certain impact on the efficiency and quality of investigations, and it may also reduce opportunities to improve safety and preventive measures for similar occurrences.

Safety Recommendations

To Maritime and Port Bureau, Ministry of Transportation and Communications

1. Referring to practices in domestic and international transportation industries as well as international pilot alcohol testing management practices, establish alcohol testing regulations and standards for pilots in our country to prevent pilots from being affected by alcohol during duty, leading to impaired cognitive functions and posing risks to the safe execution of ship navigation capabilities.

2. Referring to IMO Resolution A.960(23), it is recommended to supervise the pilot offices in each area to enhance regular updating and refresher training for pilots (not exceeding 5 years) and the content of on-the-job training courses to ensure the professional competence and safe navigation responsibilities of pilots.

3. Based on the investigation of this occurrence and referencing to the

recommendations from past research projects on our country's pilot management system, formulate effective measures to strengthen the supervision, management, assessment, and elimination mechanisms for pilots, along with corresponding measures. This will promote reforms in the pilot management system to ensure the suitability and competence of pilots, thus enhancing the safety of vessels arriving and departing.

4. Evaluate and enhance the physical examination system and related measures for pilots in our country, including at least the following aspects: strengthening the relevant standards for pilot physical examinations, providing guidelines to highlight key examination points, establishing an evaluation process for medical examiners to follow to ensure consistency in examination results; and improving the comprehensiveness of pilot physical examinations to ensure their health status is adequate for the job, thereby maintaining safety for themselves and vessels arriving and departing.

5. Supervise the Kaohsiung Harbor Port Office to completely review the potential risks of cumulative fatigue from consecutive night shifts among pilots, and devise mitigating measures.

6. Take stock of the current maritime administrative investigation personnel in each maritime affairs center, and assess the efficiency of administrative investigations, with the goal of training dedicated maritime administrative investigation personnel, enhancing maritime administrative investigation capabilities, and improving the safety of our country's ports and vessels.

To Taiwan International Ports Corporation, Ltd.

1. Enhance the safety of ship operations and navigation within Kaohsiung Port, develop guidelines for the use of tugboats. These guidelines aim to ensure that tugboats are ready and available to assist vessels before entering the turning basin, thereby preventing situations where vessels are not under command or

have restricted maneuverability upon entry. Tugboats can provide rapid support in such cases, reducing the risk of occurrences.

To the Kaohsiung Port Pilot Office

1. Review the potential risks of accumulated fatigue from pilots' consecutive night shifts and devise mitigation measures to prevent pilots from being affected by fatigue, thus safeguarding navigational safety.

To Navios Shipmanagement Inc

1. Promote the implementation of Master-Pilot Exchange (MPX) within the fleet and assess the feasibility of the pilot's berthing plans, effectively monitoring the piloting process, thereby reducing the risk of occurrences during vessel entry and departure from ports.
2. Promote within the fleet the adherence to IMO Resolution A.960(23), which states that although pilots take charge of navigation and berthing after boarding, they must still respect the authority of the master. If unsafe operations or behaviors are observed during piloting, the master must promptly intervene and take over control of the vessel.

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.