Passenger Cargo Ship Double Lucky Major Marine Occurrence

Executive Summary

On July 3, 2023, the Taiwanese-registered passenger-cargo ship "Double Lucky," registration number 016429 and gross tonnage 99.38, was carrying 75 persons, including 1 Taiwanese captain, 2 Taiwanese crew members, 1 foreign crew member, and 71 Taiwanese passengers. The ship sailed from Dongji Fishing Harbor to Jiangjun Fishing Harbor. At about 1703 local time, the ship ran aground after passing the outer breakwater of Jiangjun Fishing Harbor. All 75 persons on board were safe, and there was no environmental pollution.

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; the Coast Guard Administration, Ocean Affairs Council; the Fisheries Agency, Ministry of Agriculture; the Tainan City Government; the Taiwan Electronic Navigational Chart Center, Ministry of the Interior; the Naval Meteorological & Oceanographic Office; and Yongjay Technologies Co., Ltd.

After comprehensive investigation and analysis of the factual data, a total of 12 findings and 10 safety recommendations were obtained.

The finding related to probable cause is as follows:

1. On the day of the occurrence, three fishing boats ran aground in the middle of the navigation channel outside Jiangjun Fishing Harbor. However, their

captains failed to report these events to the Coast Guard, and the on-duty Coast Guard personnel also failed to detect that the grounded fishing boats were obstructing the channel.

2. About three minutes before the "Double Lucky" entered the harbor, the captain detected three fishing boats obstructing the channel. However, he neither waited nor reported the situation to the Coast Guard to inquire further. Instead, relying on past experience and outdated depth information on the electronic chart system, the captain decided to turn to port to avoid the three fishing boats and continue entering the harbor. This decision led to the "Double Lucky" running aground in shallow water.

3. The grounding of the "Double Lucky" caused the propeller to become stuck in the mud, resulting in a loss of main engine power and preventing the ship from refloating.

The findings related to risk are as follows:

1. The "Double Lucky" did not have the required anchors and anchor chains as specified in the ship inspection record. After grounding, the ship was pushed northward toward the breakwater by wind and waves, which prevented it from freeing itself.

2. The captain and shipowner of the "Double Lucky" did not have official electronic chart system data for the fishing harbor. In addition, the installed electronic chart system had not been inspected by the maritime authority. The chart indicated a depth of 2.5 meters around the grounding area, which was inconsistent with the actual conditions.

3. Parts of the waters between the outer and inner breakwaters of Jiangjun Fishing Harbor had insufficient depth, posing a grounding risk for at least six months. Although relevant agencies had discussed the siltation problem in

the navigation channel, the competent authorities did not publicly announce it to the relevant parties.

4. The Tainan City Government conducted dredging operations at Jiangjun Fishing Harbor every three years, but failed to effectively maintain the design water depth of -4.5 meters and did not establish a warning procedure for shallow-water areas.

5. The Passenger Vessel Pre-Departure Safety Checklist and the Application Form for Non-Domestic Fishing Vessels Entering and Exiting Fishing Harbors did not require the shipowner or captain to provide information on the ship's draft. In addition, they lacked details on harbor water depths and ship drafts, making it difficult for harbor operators and flag state control authorities to assess the risk of grounding.

6. The maritime authority has not clearly stipulated regulations governing the use of nautical charts or guidelines for electronic chart systems for ships on domestic routes and international-route ships under 500 gross tons. These ships often rely on outdated nautical charts that have not been inspected by the competent maritime authority, posing potential risks to navigation and berthing.

The other findings are as follows:

1. On the day of the occurrence, the weather and sea conditions at 1700 local time were clear, with a Beaufort scale wind force of 4, visibility of more than three nautical miles, and no abnormal wind or waves. It was a spring tide, with the second low tide occurring at 1606 local time and a tide height of -0.77 meters relative to the local mean sea level.

2. The captain and crew of the "Double Lucky" all held valid certificates of competency issued by the competent authority, and their rest time before

departure was normal, ruling out fatigue as a cause of the occurrence.

3. The "Double Lucky" had a valid ship inspection certificate and related certificates, and there were no abnormal entries in the ship inspection records, ruling out the possibility of main engine or steering gear failure, as well as structural damage to the ship.

Safety Recommendations

To Yongjay Technologies Co., Ltd.

1. Review the berthing plans and the accuracy of the electronic chart systems used on its ships.
2. Strengthen the captain’s safety management awareness and evasive maneuvering capabilities when encountering potential dangers.

To. Tainan City Government

1. Re-examine the siltation issues in the navigation channels of second-type fishing harbors under its jurisdiction, formulate effective periodic dredging plans, and timely publish the water depth information after dredging.

To the Maritime and Port Bureau of the Ministry of Transportation and Communications

1. Supervise Yongjay Technologies Co., Ltd. in reviewing the berthing plans and the accuracy of the electronic chart systems used on its ships, and in avoiding port entry during low tide to ensure sufficient under-keel clearance.
2. Revise the Passenger Vessel Pre-Departure Safety Checklist to include updated records of the nautical charts or electronic chart systems for the berthing port (or fishing harbor), in order to ensure navigation safety.
3. Cooperate with relevant government agencies to formulate guidelines

governing the use of nautical charts and electronic chart systems for ships on domestic routes and international-route ships under 500 gross tons, and establish inspection mechanisms for nautical charts and electronic chart systems.

To the Fisheries Agency, Ministry of Agriculture

1. Conduct a nationwide inventory of siltation issues in the navigation channels of first-type fishing harbors, formulate effective periodic dredging plans, provide guidance to local governments for dredging secondary fishing ports, and publish the water depth information after dredging.
2. Regularly inspect the water depth conditions of the navigation channels and berth areas of first-type fishing harbors, publish the water depth information after dredging, and provide it to the Ministry of the Interior for the production and issuance of electronic navigational charts.

To Taiwan Electronic Navigational Chart Center of the Ministry of the Interior

1. Conduct a nationwide inventory of siltation issues in the navigation channels of first-type fishing harbors, formulate effective periodic dredging plans, provide guidance to local governments for dredging secondary fishing ports, and publish the water depth information after dredging.
2. Regularly inspect the water depth conditions of the navigation channels and berth areas of first-type fishing harbors, publish the water depth information after dredging, and provide it to the Ministry of the Interior for the production and issuance of electronic navigational charts.

To the Naval Meteorological & Oceanographic Office

1. Conduct a nationwide inventory of siltation issues in the navigation channels

of first-type fishing harbors, formulate effective periodic dredging plans, provide guidance to local governments for dredging secondary fishing ports, and publish the water depth information after dredging.

2. Regularly inspect the water depth conditions of the navigation channels and berth areas of first-type fishing harbors, publish the water depth information after dredging, and provide it to the Ministry of the Interior for the production and issuance of electronic navigational charts.

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.