



KOMITE NASIONAL KESELAMATAN TRANSPORTASI
REPUBLIC of INDONESIA

FINAL
KNKT.15.12.09.03

Marine casualty investigation report

Grounding of *HANJIN AQUA*

(IMO No. 9632480)

At Terumbu Koliot, Sunda Strait, Merak

Republic of Indonesia

4 December 2015



2018

Disclaimer

The report is issued based on the investigation carried out by the KNKT in accordance with

1. Indonesia Shipping Act no 17 year 2008, chapter 256 and 257 along with it explanatory
2. Indonesia Government Regulation No 62 year 2013 on Transport Accident Investigation
3. President Regulation No 02 Year 2012 on the Komite Nasional Keselamatan Transportasi
4. IMO Resolution MSC.255 (84) on Casualty Investigation Code

Readers are advised that the KNKT investigates for the sole purpose of enhancing Transport safety. Consequently, KNKT reports are confined to matters of safety significance and may be misleading if used for any other purpose.

As KNKT believes that safety information is of greatest value if it is passed on for the use of others, readers are encouraged to copy or reprint for further distribution, acknowledging KNKT as the source. When the KNKT makes recommendations as a result of its investigations or research, safety is its primary consideration.

However, the KNKT fully recognizes that the implementation of recommendations arising from its investigations will in some cases incur a cost to the industry.

Readers should note that the information in KNKT reports and recommendations is provided to promote transport safety. In no case it is intended to imply blame or liability

Jakarta, March 2018

Chairman of
KOMITE NASIONAL
KESELAMATAN TRANSPORTASI



Dr. Ir. SOERJANTO TJAHJONO

The report is issued by the Komite Nasional Keselamatan Transportasi (KNKT), Perhubungan Building 3rd floor, Ministry of Transportation, Jln. Medan Merdeka Timur No. 5, Jakarta 10110, Indonesia, in 2018.

ISBN: -

FACTUAL INFORMATION

The Grounding

The Hanjin Aqua sailed from Adelaide, Australia bound for Jakarta, Indonesia. The ship was carrying 2,303 TEU of cargo for discharge at Jakarta, Port Klang and Singapore (included hazardous waste).

On 4 December 2015, the ship was ahead of time schedule and in order to match with the arrival time the engine RPM was reduced from the morning. The passage progressed normally when transit on Sunda strait. The ship draft was Forward 11.40 metres and Aft 11.45 metres.

At 18.00¹, the master was attending on the bridge and take over the command, as the ship going to pass the ferries passage lane. The ship set good course 033° (T) as per drawn on the chart while transit Sunda strait. At that time the third officer was in charge on navigational watch together with a duty helmsman. The sea condition was slight, slack current, the sky was cloudy and good visibility.

At about 19.00, the master had noticed from distant there were ferries crossing consecutively west bound (from Merak to Bakauheni), and also south bound vessel. While approaching to the ferries passage lane, the helmsman on duty was ready on the steering stand with mode switch to hand. The master was made steering adjustment by degrees to starboard.



Figure 1: Strait Traffic situation while Hanjin Aqua passing

At 19.16, the ship course was 043° (T) with speed 12.6 knots. The master ordered to steer to 050° in order to clear from the ferry traffic. Meanwhile the third officer was plotted the ship position and the master continuous observed the traffic visually. The third officer was operating radar no.1 (port) and the master standing on forward starboard side.

¹ Ship time (UTC+7)

At 19.23, the ship course was 050° (T), sometime fall to 051° (T) with speed of 12.7 knots. This situation was unnoticed by the master and the third officer that the ship closing toward to terumbu Koliot.

At 19.24, the master ordered the third officer to stand by with engine. This meant the ship was ready for manoeuvre at any time.



Figure 2: Ship condition when grounding

At 19.26, the ship speed rapidly decreased and seconds later the ship was stopped. The third officer spontaneously pulled the engine telegraph to stop.

After check thoroughly, it was known that the Hanjin Aqua had run aground on rocky shallow terumbu Koliot in position 5° 55.3'S - 105° 48.8'E, about 1.8 nautical miles North West off the Sangiang Island. As a result of aground the ship was listed to port side by three degrees.

Immediately after the incident, the master reported to company and to concerned party. The third officer broadcast a safety message via VHF radio that Hanjin Aqua was grounded at terumbu Koliot and to all ships in vicinity required to keep clear from her. The safety message was announced repeatedly.

The master decided not to attempt to self-float the ship by its own power to avoid more severe damage. The crew members were checking for damages and took sounding on all tanks. They found out on the bow thruster room, forward void space and no. 1 hold was flooded. All of the other tanks were in good order. However the ship was not in danger of sinking. Fortunately there were neither injuries nor marine pollution arising from the incident.

The salvage

The ship's owners made some attempts to self-float the Hanjin Aqua by using its own engine and with tug boat assistance, but the ship could not be pulled out. Following several unsuccessful attempts to self-float, the Hanjin Shipping as owner of the Panama registered container ship signed a salvage contract with SMIT on 12 December 2015.

The Salvors has successfully pulled the Hanjin Aqua off the rocky shallows on 6 January 2016, after some containers were discharged to a barge to lighten the load.

As planned that the Hanjin Aqua will sail to Singapore. After arrival at Singapore, the ship will discharge the rest of its containers and then taken to the shipyard for damage to be assessed and carried out repairs work.



Figure 3: Hanjin Aqua transfer containers to barge

The Crew of Hanjin Aqua

The ship had a multi-national crew of 21. At the time of the incident, personnel in the bridge were master, third officer and duty helmsman. The master had joined the ship for 1.5 month, master license in his possession since 2013. In his service period, he has been transiting the Sunda strait for several times with Hanjin Aqua.

There was an extra third officer as a consequence for the chief officer did not join a duty navigation watch. The third officer at the time of the incident had joined the ship for 2 months, he possessed a deck officer class three certificate of competency since 2013. This period was his third contract worked with the company.

The duty helmsman at the time of the incident had joined the ship for 2 months. He has been worked with the company since 2013 on the several ships.

Ship Particular

Hanjin Aqua is a Panama registered container ship with IMO number 9632480. The ship is a 4,500 TEU class container carrier and classed with the Korean Register of Shipping (KR). The ship is owned by KMarin and managed by Hanjin Shipping Co Ltd.

The ship was built in 2012 by Hyundai Samho Heavy Industries in South Korea. It has a length overall of 249.97 m, a breadth moulded of 37.40 m and a depth moulded of 22.10 m. At its summer draught of 13.519 metres and has deadweight of 62,448 tonnes.

Propulsive power is provided by a single Hyundai-Wartsila 6RT-flex82T which develops nominal rating 27.120 kW x 80.0 RPM, (MCR 23.900 kW x 75.0 RPM and NCR 21.510 kW x 72.4 RPM). The main engine drives a single fixed-pitch propeller.

The ship's navigation bridge is equipped with navigational electronic equipment consistent with SOLAS requirements. The equipment layout an integrated control console of radars, ECDIS, main engine controls, machinery alarm panel, a steering stand, ballast control panel and radio communications.

Passage Plan

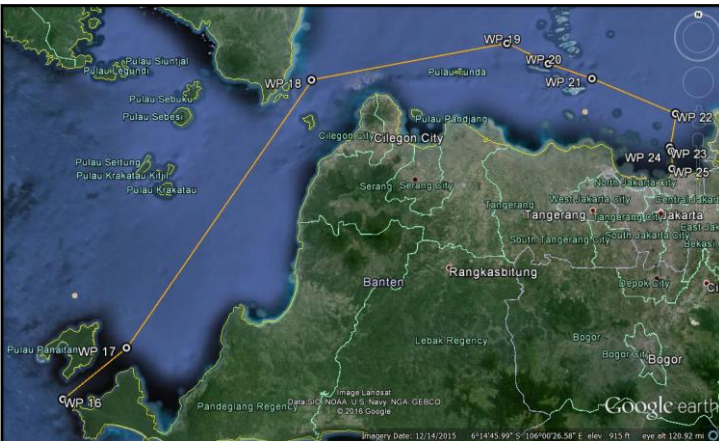


Figure 5: Hanjin Aqua passage plan

At the chart it contains the following warning 'Mariners are warned that ferries cross Sunda strait between Bakauheni (5° 52'S - 105° 45'E) in Sumatera and ports on the north coast of Java'. It was notice that 'No Go Areas' been drawn on the chart to alert the deck officers that the ship suppose not to exceed that area. Athwart distance from the course line to terumbu Koliot approximately 0.8 nm.

As per passage plan from way point (WP) 17 to way point 18 the ship transit Sunda strait, true course 033.3°, distant 55.4 nm, under keel clearance (UKC) 30 m, position fixing method: primary GPS secondary Radar and position interval 30 minutes.



Figure 4: Photo of HANJIN AQUA (courtesy of Marinetrffic.com)

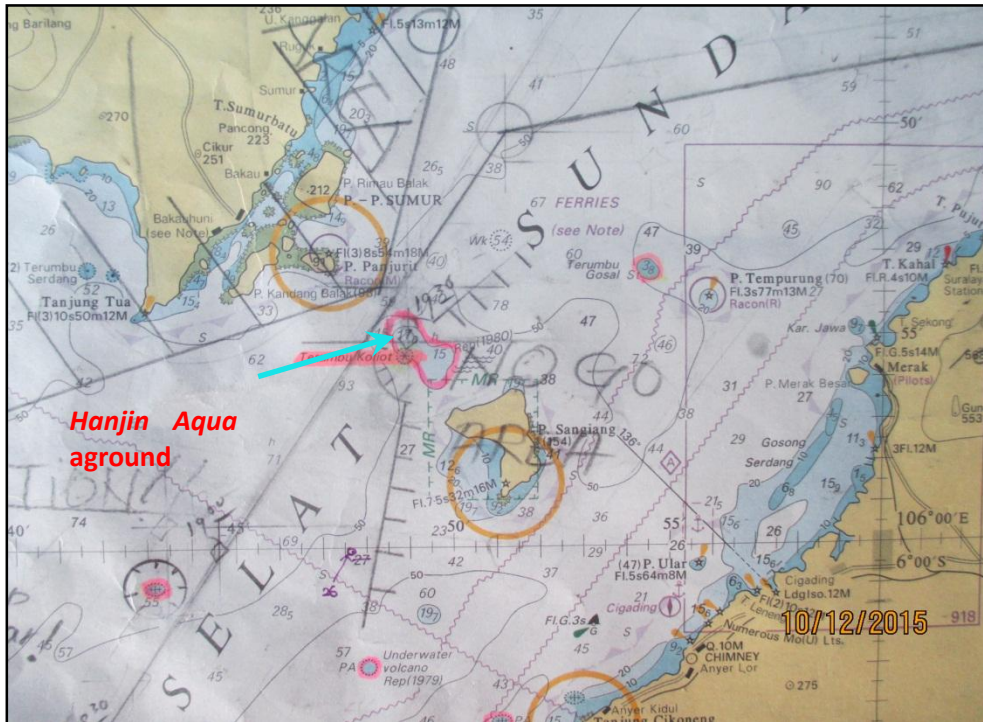


Figure 6: 'No Go Areas' drawn on the chart

Sunda Strait

The Sunda strait is a strait between island of Java and Sumatera, which is linked the Java Sea with the Indian Ocean. The Sunda strait has become an important point of shipping route from a long time ago, and declared by the government as one of a designated Indonesian Archipelagic Sea Lanes that used by ships for transit in Indonesian waters.

There are ferries that across Sunda strait for transporting people, vehicles, goods and commodities between Bakauheni, Sumatra and Merak, Java. The ferry passage distance is approximately 15 nautical miles. There are numbers of strait islands along the Sunda strait, one of them is Sangiang Island. The ferry passage route is situated further north of Sangiang Island.

ANALYSIS

Collision Regulations

The Hanjin Aqua is a power driven vessel and making way north bound while transit the Sunda strait. When the ship approach ferry route thereafter she encountered west bound ferries and south bound traffic. The ship was therefore to adhere to collision regulations rule 8 about action to avoid collision and rule 15 about the crossing situation.

The bridge personnel on Hanjin Aqua were aware of the forthcoming ferries crossing situation. The ship was put the engine on standby for manoeuvre. In this crossing situation the Hanjin Aqua required to keep out of the way of the west bound ferries

Based on interview and ship's AIS track record, it was known that the Hanjin Aqua was complied with the collision regulations where she steered to starboard in order to give way to west bound ferries.

Bridge Resource Management

Bridge Resource Management (BRM) can be defined as the effective management and utilisation of all resources, human and technical, available to the bridge team to ensure the safe completion of the vessel's voyage. A key safety

aspect of BRM is the implementation of defences against single-person errors with the aim of avoiding serious incidents.

BRM focuses on bridge officer's skills such as teamwork, teambuilding, communication, leadership, decision-making and resource management and incorporates this into the larger picture of organizational and regulatory management.

A ship is exposed to higher risks in the strait because of the smaller margins of safety due to factors which often include reduced depth and width of strait, tidal exchange and stronger current. The risks could be escalate with increased of traffic.

The bridge team on Hanjin Aqua comprised adequate number of qualified crew members who carried out a number of necessary tasks. However loss of focus could lead in weakness when bridge personnel attention was distracted by the traffic. When steering adjustment was made to starboard gradually, it supposed to increase attention of bridge personnel to double check the ship position to ensure safe movement.

Position Monitoring

According to the passage plan during the ship transit at Sunda strait, the agreed ship position to be plotted at interval not exceeding 30 minutes. It was sighted on the chart that the ship position was plotted on track at 19.00 by GPS; it was a clear indication that the ship deviate from its course before went aground. When a ship pass through strait or narrow channel particularly in congested area if the ship is at the danger then the position fixing interval was set to high therefore time interval for plotting position to be more frequent.

In the passage plan states that from WP 17 to WP 18, GPS as primary position fixing method and radar as secondary method. When the ship is navigating in sight of a coast line, the officer on watch should fix the ship position by taking bearing and distant of conspicuous shore object using radar as primary method, and secondary would be GPS.

CONCLUSION

Findings

KNKT investigation found that the ship positions were not effectively monitored when navigating close to rocky shallow water notwithstanding the bridge officer was aware of it and boundaries line of 'No Go Area' was made. Focus of each bridge personnel was distracted when encounter ferries crossing traffic. The ship keep move toward the terumbu Koliot unwittingly by the bridge personnel, and subsequently the ship went aground.

Contributory factors

- The ferries crossing convoy made confuse while the ship pass thru Sunda strait.
- The master has misjudged the ship's movement due to distracted by traffic.
- There is no navigation aid installed at the terumbu Koliot.

RECOMMENDATIONS

Komite Nasional Keselamatan Transoprtasi issued the following recommendations to the involved party with aim solely to prevent a recurrence in the future.

DIRECTORATE GENERAL OF SEA TRANSPORTATION

- To provide visual or electronic aid to navigation at the terumbu Koliot location in order to make coastal navigation safer and help prevent loss of life and marine pollution that could result from stranded ship.

SOURCE OF INFORMATION

Crews of Hanjin Aqua;

Merak Port Harbour Master Office, Banten;

Merak VTS;

Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREGs);

IMO Resolution MSC.255 (84) Code For The Investigation Of Marine Casualties And Incidents;