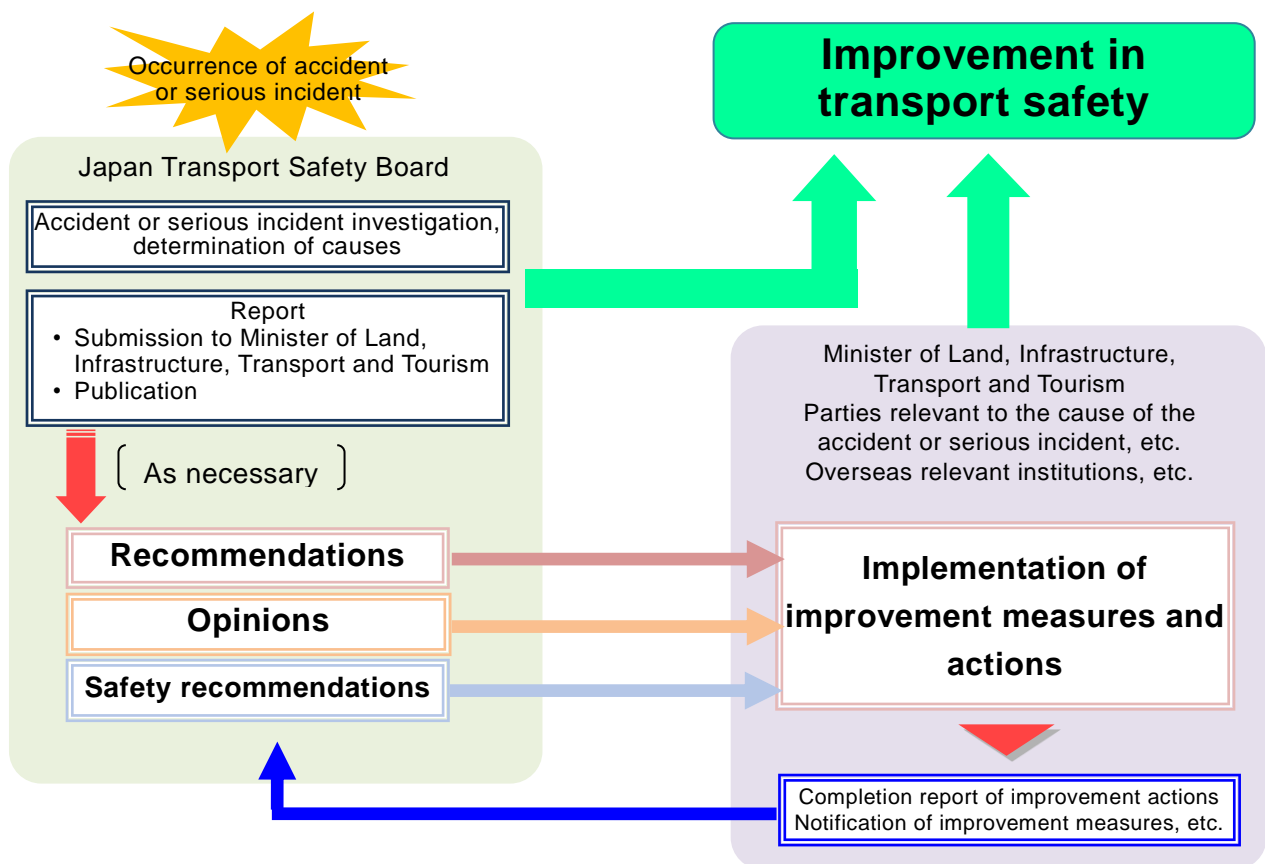


Chapter 1 Summary of Recommendations and Opinions Issued in 2016

In order to fulfill the objectives of the law specified in Article 1 of the Act for Establishment of the Japan Transport Safety Board (hereinafter referred to as “Establishment Act”), the Japan Transport Safety Board has been established as an external bureau of the Ministry of Land, Infrastructure, Transport and Tourism based on the regulations of Paragraph 2, Article 3 of the National Government Organization Act (Article 3 of the Establishment Act). Its duty is to accurately conduct investigations identifying the causes of aircraft, railway, and marine accidents and serious incidents, as well as the causes of damage occurring due to those accidents and serious incidents, while also requesting required measures and actions to be taken by the Minister of Land, Infrastructure, Transport and Tourism or parties relevant to the causes of accidents or serious incidents, based on the results of its investigations (Article 4 of the Establishment Act).

Specifically, the Japan Transport Safety Board has the ability to give recommendations to the Minister of Land, Infrastructure, Transport and Tourism or parties relevant to the causes of accidents or serious incidents, regarding measures that should be taken for the prevention of accidents or serious incidents, or for reducing their damage, based on the results of its accident investigations. The Minister of Land, Infrastructure, Transport and Tourism must provide notifications to the Japan Transport Safety Board on measures that have been taken based on its recommendations, and if parties relevant to the causes of accidents or serious incidents do not take measures in response to recommendations that have been given, the Japan Transport Safety Board has the ability to publicly disclose that fact (Articles 26 and 27 of the Establishment Act).



In addition to actions based on individual accident investigation results, if it is recognized to be necessary at an interim stage of investigations or from investigation results of multiple past accidents, the Japan Transport Safety Board has the ability to state its opinions to the Minister of Land, Infrastructure, Transport and Tourism or the directors of related government institutions regarding measures that should be taken to prevent accidents or serious incidents and to reduce their damage (Article 28 of the Establishment Act).

In the cases of aircraft and marine accidents and serious incidents, the Japan Transport Safety Board may provide recommendations (safety recommendations) on measures that should be taken quickly in order to improve safety, to related overseas institutions or parties as necessary in any stage of accident investigations, based on international treaties.

The recommendations and safety recommendations issued by the Japan Transport Safety Board in 2016 are summarized as follows.

There were no opinions issued.

1 Recommendations

Aircraft Accident involving a Viking Air DHC-6-400 (Small Aeroplane), registered JA201D, operated by First Flying Co., Ltd.

(Recommendations on December 15, 2016)

Summary of the Accident

On Friday, August 28, 2015, at around 08:55 Japan Standard Time (JST: UTC + 9 hours. All times are indicated in JST on a 24-hour clock) a Viking DHC-6-400 registered JA201D and operated by First Flying Co., Ltd. departed from the side of the runway during landing at Aguni Airport for the purpose of passenger transport, collided with the airport perimeter fence and lateral groove and damaged aircraft.

There were 14 people on board the Aircraft, consisting of a PIC, a crewmember and 12 passengers (including one company employee). Of these, a crewmember and ten passengers suffered minor injuries.

The aircraft suffered substantial damage, but there was no outbreak of fire.

Probable Causes

It is highly probable that this accident occurred because, when the aircraft landed, the First Officer, as the PF in charge of flying, could not properly control the aircraft as it started to deflect after touchdown, as a result of which the aircraft departed from the side of the runway and collided with a fence on the airport perimeter.

It is probable that the aircraft started to deflect after touchdown because the PF forgot to perform the checklist, while the PIC, as the PM in charge of duties other than flying, did not properly monitor the situation or did not perform the necessary pointed out, as a result of which the aircraft touched down with the nose wheel deflected to the right.

It is somewhat likely that the PF could not properly control the aircraft as it started to deflect after touchdown, because his knowledge concerning the aircraft system of the aircraft was

inadequate, as a result of which he did not fully understand situations that cause deflection to start. It is somewhat likely, moreover, that the insufficient response by the PIC when an unforeseen situation arose contributed to this.

It is probable that the knowledge of the PF was inadequate and he did not fully understand situations that cause deflection to start, because the company had not properly confirmed the effectiveness of ground school training that should be undertaken prior to route training and training related to establishing knowledge.

Safety Recommendations to the First Flying Co., Ltd.

Ascertain the current situation of ground training and flight training correctly, and then improve its system for training to enable the stipulated training to be carried out properly.

2 Safety Recommendations

(1) Aircraft Accident involving an Airbus A320-200 (Large Aeroplane), registered HL7762, operated by Asiana Airlines, Inc.

(Safety Recommendations on November 24, 2016)

Summary of the Accident

On Tuesday, April 14, 2015, an Airbus A320-200, registered HL7762, operated by Asiana Airlines, Inc., as the scheduled Flight 162 of the company, approached lower than the prescribed approach path during approach to Hiroshima airport. The aircraft collided with the Aeronautical Radio Navigation Aids located in front of the runway 28 at 20:05 JST and KST, and it touched down in front of the threshold of the runway. Subsequently, it moved forward on the runway, and then deviated to the south side of the runway and came to a stop inside the runway strip of the airport.

There were 81 people on board, consisting of the Pilot-in-Command (PIC), six other crew members, a boarding mechanic and 73 passengers. Among them, 26 passengers and two crew members, 28 people in total, were slightly injured.

The aircraft was substantially damaged, but there was no fire breakout.

Probable Causes

It is certain that when landing on runway 28 at Hiroshima airport, the aircraft undershot and the PIC commenced executing a go-around; however, it collided with the Aeronautical Radio Navigation Aids located in front of runway 28 threshold, just before turning to climb.

Regarding the fact that the aircraft undershot, it is probable that there might be following aspects in causes: The PIC continued approaching without executing a go-around while the position of the aircraft could not be identified by visual references which should have been in view and identified continuously at or below the approach height threshold (Decision Altitude: DA); and as well, the first officer, as pilot-monitoring who should have monitored meteorological conditions and flight operations, did not make a call-out of go-around immediately when he could not see the runway at DA.

Regarding the fact that the PIC continued approaching without executing a go-around while the position of the aircraft could not be identified by visual references which should have been in view and identified continuously at or below DA, he did not comply with the regulations and Standard Operating Procedures (SOP), and it is probable that there was a background factor that the education and trainings for compliance of rules in the company was insufficient. In addition, regarding the fact that the first officer did not make an assertion of go-around, it is probable that the Crew Resource Management (CRM) did not function appropriately.

Safety Recommendations to the Ministry of Land Infrastructure and Transport, Republic of Korea

In order to contribute to prevention of recurrence of similar accidents based on the results of this accident investigation, Japan Transport Safety Board makes the safety recommendations that Ministry of Land Infrastructure and Transport, Republic of Korea should supervise Asiana Airlines, Inc. in the following items:

- (1) The Company should reemphasize and reinforce the significance of compliance by flight crew members, while reviewing company procedures and ensuring comprehensive training.
- (2) The Company should surely implement the education and training that flight crew members should refer primarily to visual references, using flight instruments as supplementary tools appropriately, when approaching below DA.

(2) Collision Accident involving the Cargo Ship FUKUKAWA and the Fishing Vessel TSUNOMINE MARU

(Safety Recommendations on March 31, 2016)

Summary of the Accident

While the cargo ship FUKUKAWA, on which the Master and nine other people crew were on board, was in its way in the north-east direction toward Hanshin Port Osaka District in the Sea of Genkai, and while the fishing vessel TSUNOMIME-MARU, on which the Skipper alone was on board, was in its way in the south-southeast direction toward Hakata Port, Fukuoka City, Fukuoka Prefecture, both collided in north off coast of Genkai Shima Island, Fukuoka City, at around 02:04 on June 15, 2013.

TSUNOMINE MARU, the Skipper died, caused damage to the bow section and capsized.

FUKUKAWA produced an abrasions on the port bow section, but there were no death and casualties.

Probable Causes

It is probable that this accident occurred, at night, when it became a restricted visibility state due to fog in the north offshore of the Genkai Shima Island, while FUKUKAWA was navigating in north-eastward and TSUNOMINE MARU was navigating in south-southeastward, because both ships maintained the course and speed in the same degree, they had collided together.

The reason for FUKUKAWA continued navigation maintaining the course and speed was that the third officer, while recognizing that TSUNOMINE MARU was coming towards FUKUKAWA, expected to be able to avoid TSUNOMINE MARU even by turning the direction after TSUNOMINE MARU approached nearer.

Safety Recommendations to the TIAN CHEN INT'L SHIPPING MANAGEMENT CO., LIMITED

The Japan Transport Safety Board, based on the results of the accident investigation, against the TIAN CHEN INT'L SHIPPING MANAGEMENT CO., LIMITED, recommend the following actions to be taken.

- (1) To the masters and crew members, captain and crew, when it became a restricted visibility condition, it shall be thoroughly instructed to comply with the Safety Management Manual.
- (2) To the masters and crew members it shall be thoroughly instructed to comply with the Urgent Procedure Book.
- (3) To the masters, if a collision occurred, it shall be thoroughly instructed to carry-out notification to the search and rescue agencies of the coastal state and the TIAN CHEN INT'L SHIPPING MANAGEMENT CO., LIMITED, and return to the accident place, appropriately carry-out the search and rescue.
- (4) As to the above (1) through (3), for the master and crew members of a ship owned or managed, education shall be strengthened by using the case of this accident, and it shall be thoroughly familiarized.

(3) Sinking Accident of Cargo Ship MING GUANG

(Safety Recommendations on August 25, 2016)

Summary of the Accident

When the cargo ship MING GUANG manned with a master and 9 crewmembers was sailing south-southwest to Kwangyang, Republic of Korea, the vessel's interior could have been flooded from taking on seawater and she foundered to the northwest of Ajigasawa Port, Ajigasawa Town, Aomori Prefecture, around 06:05 on December 26, 2014.

All ten of the crewmembers were rescued but three died.

Probable Causes

It is probable that the accident occurred because, while MING GUANG was sailing at night against waves from her starboard bow west of Tsugaru Strait, the Vessel foundered due to the fact that water from striking waves flooded the CO2 room, ballast tanks, and other compartments on the starboard side through holes in the hatch covers, ventilation fans, and air vent pipes of the upper deck and gaps in the manhole covers and access openings, etc." (hereinafter referred to as the "holes, etc., on the upper deck"), thereby causing a starboard list and putting the Vessel into a situation in which her upper deck's starboard edge became submerged, and that this resulted in the Vessel's turning on her side when a greater amount of water flooded into the hull's interior through hatch covers, access openings, etc., and the Vessel lost stability and turned over due to the effect of the wind and waves, which in turn allowed additional water to flood in.

It is probable that the flooding of the CO2 room, ballast tanks, and other compartments on the MING GUANG's starboard side from striking waves through holes, etc., on the upper deck occurred because the weathertightness of hatch covers, access openings, and other facilities of the upper deck was not maintained.

It is probable that the weathertightness of the hatch covers, access openings, and other facilities of the upper deck was not maintained because MING GUANG's crewmembers did not periodically check holes, etc., on the upper deck to maintain her weathertightness.

Safety Recommendations to the HK SAFE BLESSING SHIPPING and the Kingdom of Cambodia

It is probable that this accident occurred because MING GUANG was flooded through holes in the hatch covers, ventilation fans, and air vent pipes of the upper deck and gaps in the manhole covers and access openings, etc." (hereinafter referred to as the "holes, etc., on the upper deck") while she sailed through waves coming from her starboard bow.

It is probable that MING GUANG's flooding through holes, etc., on the upper deck occurred because the vessel's weathertightness was not being maintained, as crewmembers did not periodically check holes, etc., on the upper deck to maintain her weathertightness.

It is probable that HK SAFE BLESSING SHIPPING Ltd. did not appropriately engage in safety management of MING GUANG, such as by properly manning the Vessel and providing education for her crewmembers, and that MING GUANG sailed in a condition that exceeded her load line that was set based on the International Convention on Load Lines of 1966.

It is somewhat likely that if the Chief Officer had put on an immersion suit before abandoning the Vessel and if the Second Officer and the surviving Able Seaman had been able to prevent the inflow of seawater into the immersion suits they were wearing, the Chief Officer and the Second Officer would have survived and the surviving Able Seaman would not have suffered hypothermia.

In view of the result of this accident investigation, the Japan Transport Safety Board recommends that HK SAFE BLESSING SHIPPING, as the management company, and the Kingdom of Cambodia, as the flag state of the MING GUANG, should take the following measures to prevent recurrence of similar accidents and reducing damage.

HK SAFE BLESSING SHIPPING should engage in thoroughgoing vessel safety management that includes manning the vessels it manages with crewmembers who possess legally valid certificates of competence and appropriately providing education to crewmembers, and should instruct crewmembers to engage in the following practices:

- (1) Crewmembers shall maintain weathertightness by periodically checking the integrity and closed condition of weathertight closing devices, etc., on the upper deck.
- (2) Masters shall maintain sufficient freeboard in compliance with the International Convention on Load Lines of 1966.
- (3) Crewmembers shall understand that seawater can enter immersion suits that are being worn, and shall wear immersion suits appropriately by periodically inspecting their storage conditions and practice putting them on.

Authorities of the Kingdom of Cambodia should direct management companies and recognized organizations to ensure that vessels in its registry are manned with personnel who possess the legally valid certificates of competence that are specified in Minimum Safe Manning Certificates and that safety management such as above items (1) to (3) are thoroughly practiced aboard them.