

Examples of Marine Accidents (Reference)



The Maritime Human Resource Institute, Japan

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1. The eastern area of the Kanmon Kaikyo

Among the marine accidents that have occurred in the eastern part of the Kanmon Passage from Ganryu Shima and vicinity, the cases that were adjudicated by marine accident inquiry in the 5 years from 2002 to 2006 are: 10 cases of 20 vessels in collisions 4 cases of 4 vessels in groundings 12 vessels out of 20 colliding vessels (which is 60%) were foreign vessels.

Looking at the locations, 4 of the collisions and 2 of the groundings occurred in Hayatomo Seto; 2 of the collisions and 2 of the groundings occurred in the curved area of the Kanmon Passage north-east of Ganryu Shima. The following are 4 patterns of marine accidents that have occurred in Hayatomo Seto.

- ① During the eastward current, an eastbound vessel, navigating close to the centre of the passage, was set off towards the Shimonoseki side after passing the Kanmon Bridge, resulting in a collision with a westbound vessel. (Example 2)
- ② Again during the eastward current, a westbound vessel was trying to overtake a same-way vessel navigating from a location in the centre, or slightly to the port side of the passage. After sighting an eastbound vessel, the westbound overtaking vessel tried to get back to the starboard side of the passage but she was set off towards the Shimonoseki side and then collided with the ship she had intended to overtake. (Example 3)
- ③ During the westward stream an eastbound vessel, located in the vicinity of the boundary area of the passage where the current was weak, tried to overtake a vessel navigating eastward in the centre of the passage where the current is strong. Unfortunately, she caught up with and collided with this vessel, at around the Moji Saki area. (Example 1)
- ④ In the vicinity of Moji Saki, one ship was proceeding at a large angle against the current direction and she ran aground when she was unable to turn the bow due to the differential current pressure at the bow and the stern. (Example 4)

1.1 A collision occurred when a foreign-flag vessel tried to overtake an oil tanker off Moji Saki, during the westward current (Example 1)

K: Oil tanker, 999 G/T, crew of 8, empty hold, navigating from Hakata Port to Oita Port
Captain: 53 years old, 36 years at sea

B: Cargo ship (Malaysian-registered), 8,957 G/T, crew of 26, carrying 312 containers from Dalian, China to the quarantine anchorage at He Saki, Kanmon Port (without a pilot)
Captain: 43 years old (Indian), 12 years at sea including 3 times navigating in the Kanmon Kaikyo

Date, time and location of occurrence: December 10, 2004, 19:15 JST, Hayatomo Seto in the Kanmon Kaikyo

Weather and sea state: Fair, north-westerly wind, wind scale 2, good visibility,
westward current of about 3.6 knots at high tide

Summary of the marine accident

‘**K**’, with the Captain having the con, helm in manual, was navigating eastwards but to the starboard side of the course. For her the current was strong and favourable. She had sighted ‘**B**’ getting closer from the starboard quarter, but decided ‘**B**’ would not overtake in the vicinity of Kanmon Bridge, and she continued to proceed without watching the other ship’s movements. Meanwhile ‘**B**’, similarly with the Captain having the con, manual helm engaged and proceeding eastwards, was approaching the termination of that course and, because the current was relatively weak, judged that she could overtake ‘**K**’. She based her judgment on the supposition that as ‘**K**’ should turn slowly to starboard along the course even when both vessels were rounding Moji Saki, and she could overtake her. ‘**B**’ did not make the overtaking signal by whistle. ‘**B**’ steered the course to the port side to maintain a distance from Moji Saki 2 minutes before the collision and immediately after passing the Kanmon Bridge. She then tried to steer a course to starboard, but collided with ‘**K**’ because the westward current on her bow was too severely affecting her and it prevented her from turning into it.



1.2 During the eastward current, at Hayatomo Seto an eastbound vessel collided with a westbound vessel, having been set off towards Dannoura. (Example 2)

F : Cargo ship, 392 G/T, crew of 5, carrying 280 tons of coal dust, navigating from Tokuyama Kudamatsu Port, Yamaguchi, to Kokura-ku of Kanmon Port
Captain: 71 years old

D Cargo ship, 5,264 G/T, crew of 13, no cargo, in ballast, navigating from Pusan Port, Korea, to Mizushima port.
Captain: 49 years old (Korean), experience of navigating in the Kanmon Kaikyo and on this occasion, his second time as the Master

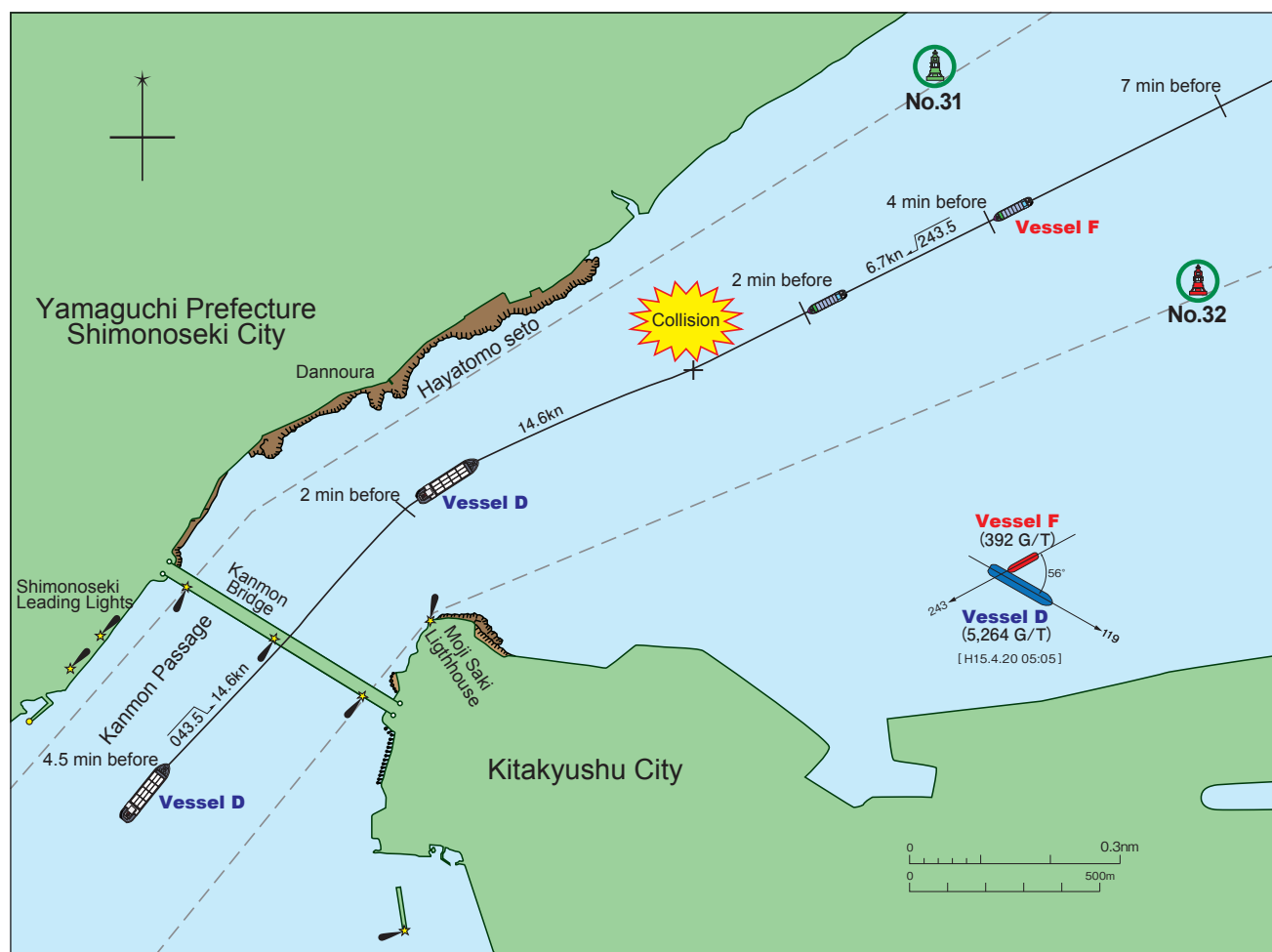
Date, time and location of occurrence: April 20, 2003, 05:05 JST, Hayatomo Seto in the Kanmon Kaikyo.

Weather and sea state: Drizzle, wind scale 1, westerly wind, visibility about 3 miles, eastward current of about 4 knots, thick fog warning in the western part of Yamaguchi Pref.

Summary of the marine accident

The Japanese cargo ship 'F' was sailing westward under the con of the Master, in the manual steering mode, in the middle of the passage, heading towards Hayatomo Seto. The Captain, preoccupied with maintaining a distance from the north shore, did not notice the lights of 'D' ahead of her and coming down.

'D' was navigating eastward in the favourable current off Moji Saki, in the Kanmon Passage, and she was aware of 'F' 's lights, but she still collided with 'F' when she started to turn 10 degrees to starboard after being set off towards the Shimonoseki side. The cause of the collision was 'D' 's entering into the portside of the passage because of her late alteration of course to starboard.



Vessels navigating eastward in the Kanmon Passage are likely to be set off towards the Shimonoseki side regardless of the tidal current direction. Especially, vessels navigating eastward in the middle of the passage at night against the eastward current, when they are late with steering off Moji Saki and they enter the swiftest current area, they will not only be set off towards the Shimonoseki side, but it will be difficult to get rudder effect due to the favourable current which renders the ship unable to turn to starboard. Then, they can get close to a vessel navigating westward. Caution is required.

1.3 In an eastward current of 6 knots, in Hayatomo Seto, a foreign vessel collided with a Japanese oil tanker when trying to overtake her from the port side of the passage.(Example 3)

K: Oil tanker, 698 G/T, crew of 7, carrying 717 tons of propylene from Chiba port to Ulsan port, Korea
Captain: 33 years old

S: Cargo ship (Panamanian-registered), 4,960 G/T, crew of 23, carrying 2,370 tons of containers from Tanoura Dist. , Kanmon Port, to Ningbo Port, China
Captain: 41 years old (Chinese), 7 years' experience as Captain, several times experienced navigating in the Kanmon Kaikyo

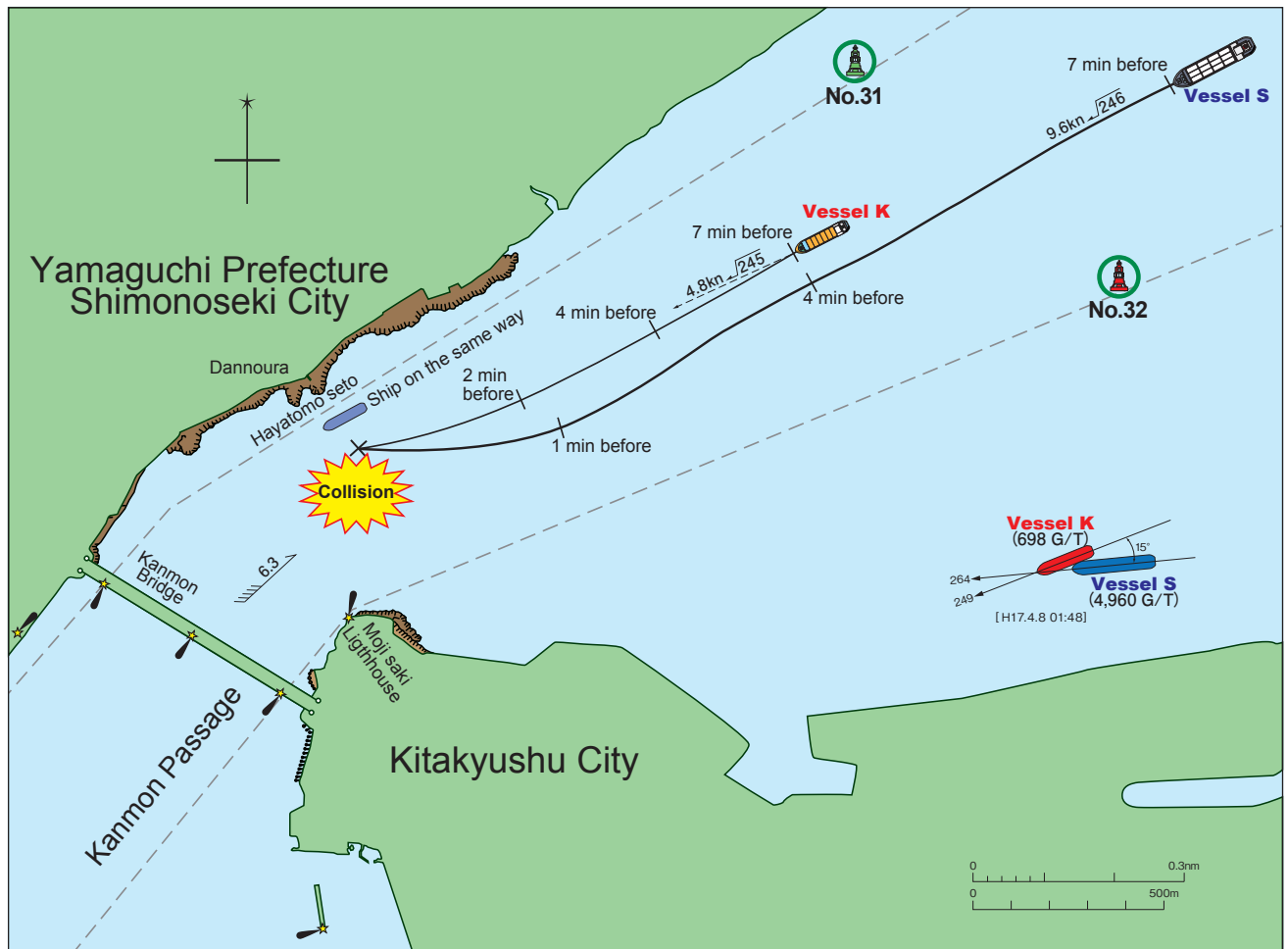
Date, time and location of occurrence: April 8, 2005, 01:48:15 JST, Hayatomo Seto in the Kanmon Kaikyo

Weather and sea state: Fair, no winds, the last stage of ebb tide, eastward current of about 6 knots

Summary of the marine accident

The Panamanian-flag freighter 'S' was sailing southwestward in the middle of the Kanmon Passage at Hayatomo Seto, with the intention to overtake the Japanese tanker 'K'.

Kanmon Kaikyo VTS center gave a warning to the freighter by VHF, saying 'Do not overtake the tanker 'K''. The freighter, however, did not respond to this call and continued overtaking the tanker, by proceeding to the port side of the passage. At about the same time, the freighter noticed the lights of two eastbound vessels and attempted to return slightly to the starboard side of the passage but she was set off towards Dannoura, resulting in a collision with the tanker 'K'.



Vessels in the Kanmon Passage and No.2 Kanmon Passage shall keep as near to the outer limit of the passage which lies on their starboard side as is safe and practicable. Furthermore, in the Kanmon Passage, vessels are prohibited from making risky overtaking moves; and, parallel navigating with another vessel is also prohibited. As demonstrated by this case, it is important to refrain from overtaking another vessel in Hayatomo Seto.

When sailing in Hayatomo Seto, a Captain is urged not to feel time-pressed, hurried, or required to fight the current, but to keep a sufficient distance from other vessels, especially those ahead, and to navigate with caution.

Note : Overtaking in the Hayatomo Seto Waterway is prohibited from May 2012.

1.4 In fog and during the westward current in the Hayatomo Seto, a vessel ran aground trying to avoid a vessel coming down from ahead. (Example 4)

E : Oil tanker, 998 G/T, crew of 8, in ballast (black oil), from Fushiki, Toyama Port, to Tokuyama, Kudamatsu Port
Captain: 53 years old and 35 years' experience at sea

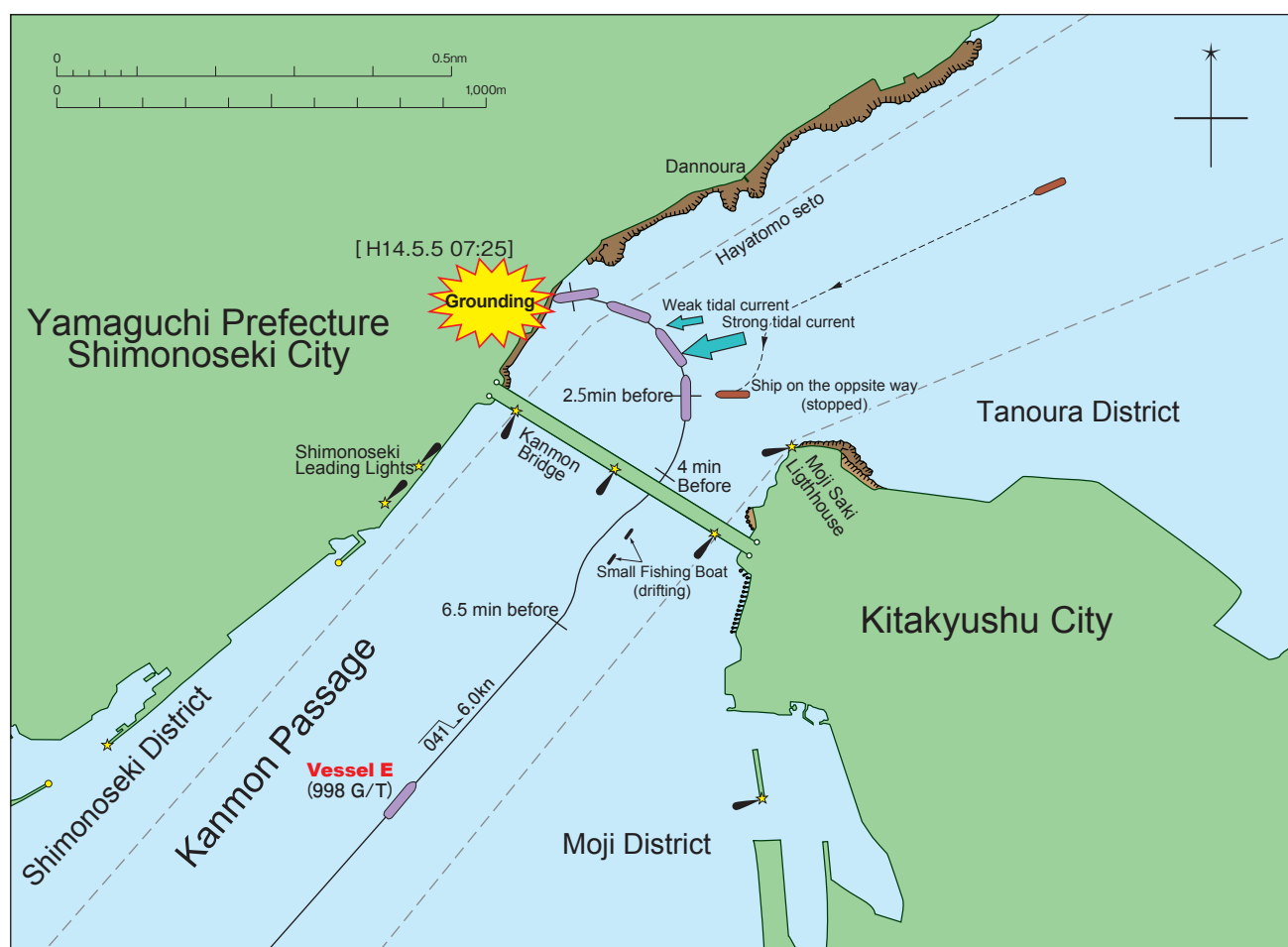
Date, time and location of occurrence: May 5, 2002, 07:25 JST, Hayatomo Seto of the Kanmon Kaikyo

Weather and sea state: Fog, east north-easterly wind, wind scale 1, visibility about 200 meters, under warning of thick fog, westward current of 4 knots
In fog, westward current in Hayatomo Seto vessel runs aground while turning to portside, trying to avoid a vessel coming towards her.

Summary of the marine accident

While navigating eastward in the Kanmon Kaikyo in restricted visibility, the oil tanker '**E**' detected 2 fishing vessels by radar west of the Kanmon Kaikyo Bridge. She moved towards the middle of the passage, avoided the fishing vessels, and when passing under Kanmon Bridge, she sighted a vessel navigating westwards in the middle of the Kanmon Passage. '**E**' took evasive action with a hard over to port in order to avoid the other vessel which was stopped off Moji Saki.

'**E**' then continued to turn round, intending to make a full round turn and reverse the course, but could not do so because of the force of the current and she ran aground.



Velocity of tidal current depends considerably on each point in the Straits. As in the above case, when a vessel proceeds at a large angle against the current direction, the bow and stern will face the differential of the tidal current velocity, and it will be quite dangerous as she may not be able to maneuver as intended.

2. The western area of the Kanmon Kaikyo

Amongst the marine accidents (collisions and groundings), involving passenger ships, freighters and oil tankers, for which judgments were delivered by the relevant marine accident inquiry agencies over a period of five years from 2002 to 2006, 16 collisions (32 vessels) and 14 groundings occurred in the Kanmon Passage and its adjacent waters, lying to the west of the longitude of Ganryu Shima. Of the 16 collisions, 16 foreign-flag vessels were involved.

Going by the location of the accidents within the area, these were found:

In O Seto there were two (2) collisions.

In the waters adjacent to the Sunatsu Passage, four (4) groundings.

At the junction of the Kanmon Passage and No.2 Kanmon Passage, no less than seven (7) collisions and two (2) groundings.

Six (6) instances of vessels going aground around Ai-no-Shima.

Seven (7) collisions and two (2) groundings in other waters within the Kanmon Kaikyo and its approaches.

Further, the majority of these accidents occurred during the hours of darkness:

Between 2000hrs and 0600hrs 68% for collisions; 64% for the groundings.

The following are patterns of marine accidents occurring around the junction of the Kanmon Passage and No.2 Kanmon Passage.

- ① In the Kanmon Passage, a small vessel (less than 300 G/T) in Kanmon Port failed to avoid a southward bound vessel (specification “other than small and miscellaneous vessels”) and collided with her (Example 1)
- ② A westward bound vessel, leaving the Kanmon Passage, failed to avoid a vessel that has been navigating southward in the Kanmon Passage and collided with her within the No. 2 Kanmon Passage (Example 2)
- ③ When a vessel intends to navigate westward along the Kanmon Passage with the intention of entering the No. 2 Kanmon Passage, she may encounter another vessel that is navigating southward in the junction of both passages. This area has dense traffic even at night, and there may be times when such a vessel needs to keep out of the way of more than one other vessel. It is advisable for such a vessel to slacken her speed rather than taking avoiding action by than steering alone.

The following are patterns of marine accidents occurring around the junction of the Kanmon Passage and No.2 Kanmon Passage.

- ① A Japanese vessel leaving the Sunatsu Passage collided with a foreign-flag vessel navigating southeastward along the Kanmon Passage (Example 4)
- ② A vessel entering the Sunatsu Passage from the Kanmon Passage, went aground by steering out of the passage and into the shallows when she was taking avoiding action for a vessel leaving from a basin ahead of her.

2.1 A small Japanese oil tanker which was the give-way vessel collided with a foreign-flag freighter navigating southward along the Kanmon Passage (Example 1)

D: Oil tanker, 199 G/T, crew of 3, heavy oil of 240 kiloliters, from Tokuyama Kudamatsu Port to Nagasaki Port
Captain: 60 years old, 44 years' experience at sea and 36 years as Master, experience of navigating in the Kanmon Kaikyo

N: Cargo ship (Panamanian-registered), 4,186 G/T, crew of 23, empty hold, from Mokupo Port, Korea, to Ube Port

Captain: 46 years old (Filipino), experience of navigating in the Kanmon Kaikyo

Pilot: 59 years old, 4 years as pilot in these waters

Date, time and location of occurrence: February 12, 2003, 21:17 JST

Junction of the Kanmon Passage and No.2 Kanmon Passage

Weather and sea state: Cloudy, wind scale 3, west north-westerly wind, good visibility, the middle stage of ebb-tide

Summary of the marine accident

While navigating northwestward in the Kanmon Passage, the Japanese oil tanker 'D' detected the Panamanian freighter 'N' by radar. However, the tanker did not monitor the movement of the freighter nor did she heed the information about the freighter 'N' that the Kanmon MARTIS gave several times to the tanker by VHF.

When the freighter 'N' made a position report to the Kanmon MARTIS by VHF, upon entering the Kanmon Passage, she received information to the effect that she might approach a small westbound vessel. She then assumed that the westbound tanker would keep out of the way of her own vessel and she continued sailing, without sounding warning signals, and they collided with each other.



In the highly dangerous environs of the Kanmon Kaikyo, a vessel that does not keep a listening watch on VHF may adversely affect many of the other vessels around her.

If you have not turned up the VHF telephone to an audible level, it is as if the telephone is inoperative. You are required to ensure that you keep a listening watch, by checking the installed location and sound volume of the VHF

2.2 A foreign-flag freighter navigating along the passage and another foreign-flag freighter trying to get out of the passage collided (Example 2)

- C:** Cargo ship (Korean registered), 2,305 G/T, crew of 13, carrying 104 tons of steel from Pusan Port, Korea to Kobe Port
Captain : 61 years old (Korean), experienced at navigating in the Kanmon Kaikyo
- A:** Cargo ship (Korean registered), 1,912 G/T, crew of 8, carrying 1,259 tons of containers from Tokuyama Kudamatsu Port to Gwangyang Port, Korea.
Captain : 51 years old (Korean), with experience of navigating in the Kanmon Kaikyo
(First voyage as Master in this area)

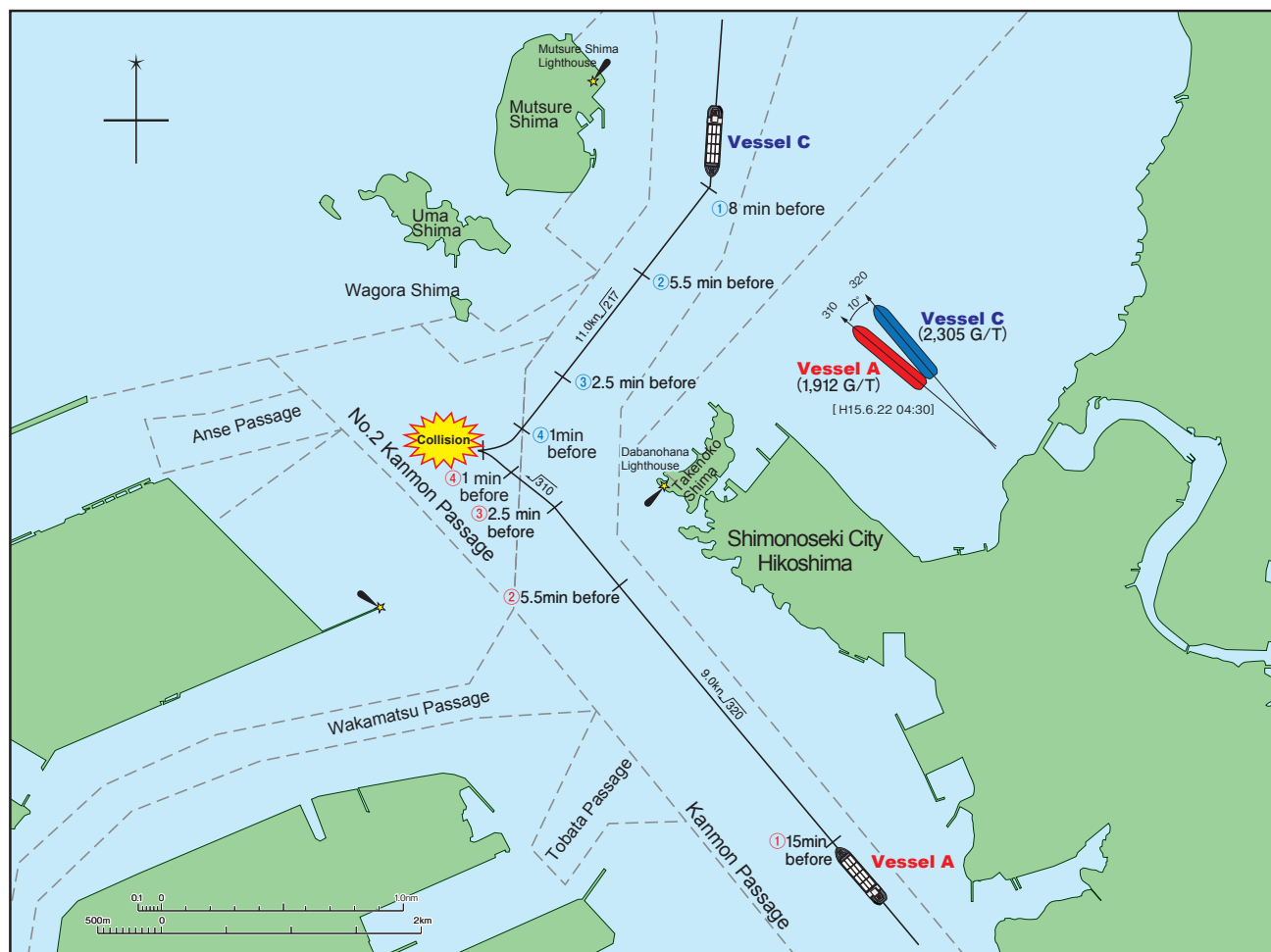
Date, time and location of occurrence: June 22, 2003, 04:30 JST, No.2 Kanmon Passage

Weather and sea state: Rain, south-easterly wind, wind scale 3, visibility about 1.5 miles

Summary of the marine accident

At night, while navigating southward after entering from the west entrance of the Kanmon Passage, 'C' detected 'A' who was navigating westward in the passage. But 'C' approached her on a collision course and continued to proceed without sounding a warning signal.

Meanwhile, 'A', navigating toward No.2 Kanmon Passage and intending to get out of the passage, sighted 'C' visibly once but did not watch her movement enough and kept moving without taking any avoiding action such that the vessels had a collision inside the Kanmon Passage.



The curved area of the passage off Daiba Hana is obstructed by Hiko Shima and Takenoko Shima. This can mean that there is insufficient time for vessels to avoid each other after a visual sighting. It is required to detect and plot by radar well in advance when navigating this tricky area. Ships must use good seamanship and navigate with caution.

2.3 A foreign vessel collided with a live fish carrier when she overtook her in the area outside the No. 2 Kanmon Passage (Example 3)

- A:** Live fish carrier, 324 G/T, crew of 6, empty hold, from Uwajima Port to Kusudomari Port, Nagasaki
 Captain: 51 years old, 23 years at sea
 First mate (on duty as bridge officer): 54 years old, 29 years at sea (2 times experience of navigating in the Kanmon Kaikyo)
- B:** Cargo ship (Korean registered), 3,981 G/T, crew of 15, carrying 163 containers from Hiroshima Port to Ulsan Port, Korea
 Captain: 51 years old (Korean), has 26 years of experience at sea (500 times navigating in the Kanmon Passage as captain)

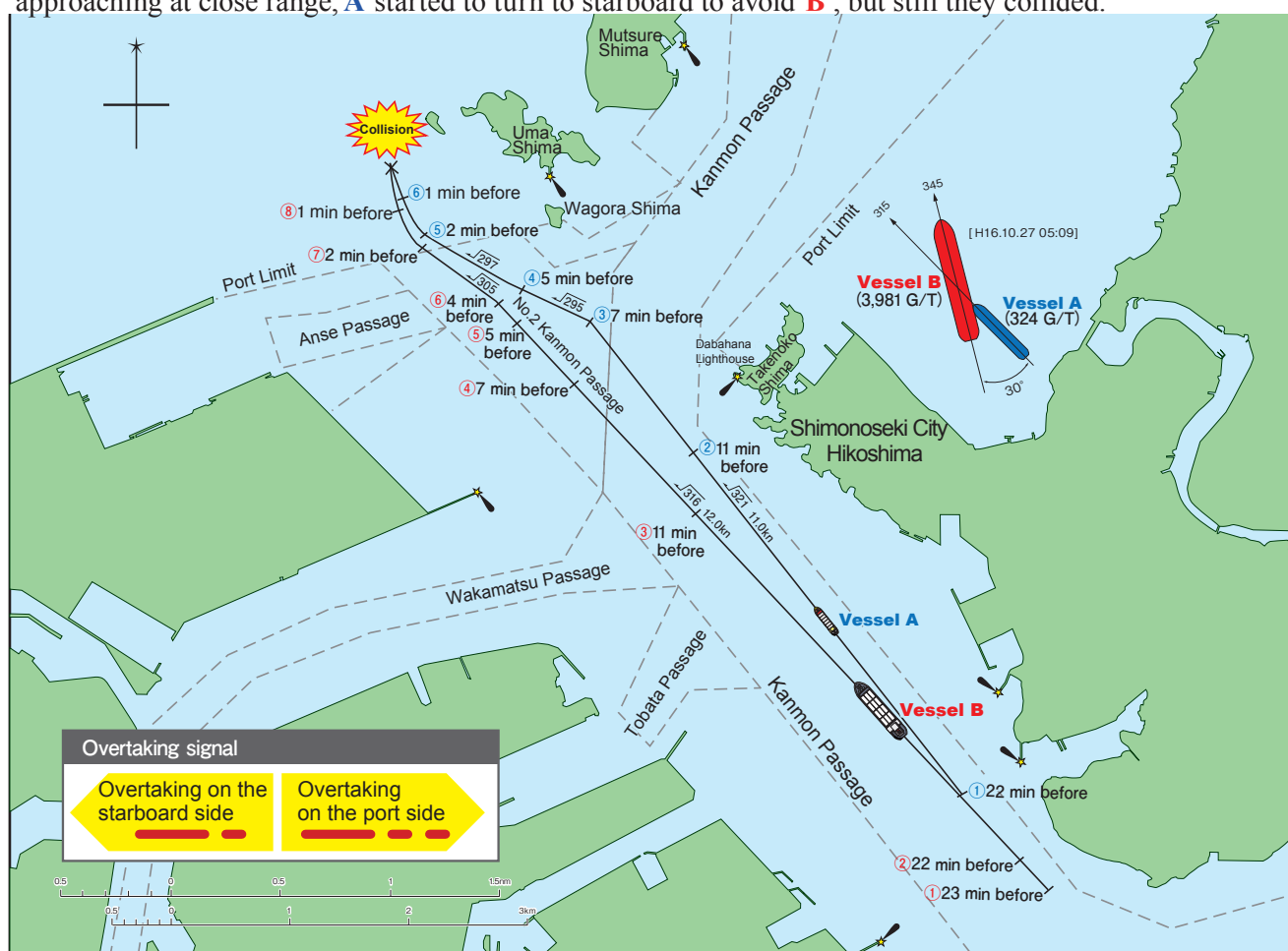
Date, time and location of occurrence: October 27, 2004, 05:09 JST, the west exit of the Kanmon Passage

Weather and sea state: Fair, north-westerly wind, wind scale 4, good visibility, the middle stage of rising tide

Summary of the marine accident

‘A’ was navigating westward in the Kanmon Passage with automatic steering, without sounding a warning signal even though a close quarters situation with ‘B’ was developing. ‘B’ was approaching from the port quarter of ‘A’ and was navigating westward in the Kanmon Passage with manual steering.

After leaving No.2 Kanmon Passage, ‘B’ had continued her efforts to overtake ‘A’. When ‘A’ saw ‘B’ approaching at close range, ‘A’ started to turn to starboard to avoid ‘B’, but still they collided.



A vessel may overtake another vessel in the Kanmon Passage, after considering the surrounding situation and only when all conditions described below are met.

- (1) When a vessel being overtaken does not need to take any cooperation movement in order for an overtaking vessel to pass safely.
- (2) When an overtaking vessel can keep out of the way of any other vessels safely.

At any junction where courses are crossed, such as the area of south/north boarder of No. 2 Kanmon Passage, overtaking should not be done. When overtaking is allowed, an overtaking signal should be sounded and each vessel should understand the other's intentions. Vessels are to use VHF, warning signals, maneuvering signals, AIS and all other available means.

2.4 A domestic tanker leaving from Sunatsu Passage collided with a foreign-flag freighter navigating southeastward along the Kanmon Passage (Example 4)

H: Oil tanker, 99 G/T, crew of 3, carrying 210 kiloliters of heavy oil from Kokuraku, Kanmon Port, to Shimonoseki Dist., Kanmon Port

Captain: 34 years old, 16 years at sea, 5 years' experience on board 'H'

S: Cargo ship (Panamanian registered), 4,018 G/T, crew of 22, 1,800 tons of containers from Shanghai, China to Yokohama Dis., Keihin Port

Captain: 41 years old (Chinese), has 21 years at sea, 5 year career as captain, (approx. 100 times experience navigated in the Kanmon Kaikyo)

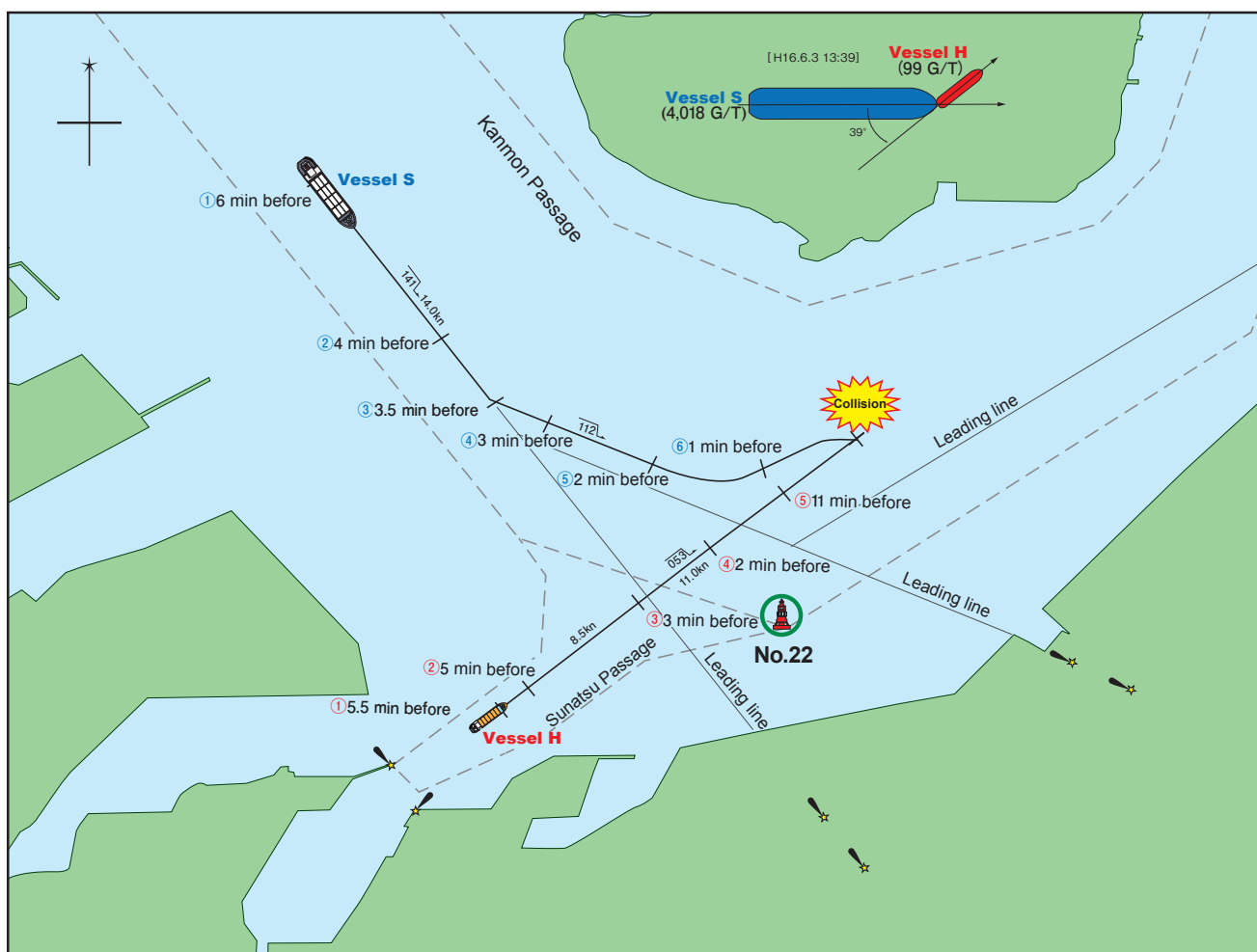
Date, time and location of occurrence: June 3, 2004, 13:39 JST, North-east of Sunatsu Passage in the Kanmon Passage

Weather and sea state: Fair, north-easterly wind, wind scale 2, good visibility, the last stage of ebb-tide, eastward current of 2.5 knots

Summary of the marine accident

The tanker 'H' which was engaged in domestic trade for the carriage of fuel oil, and while leaving Sunatsu Passage, was likely to encounter the Panamanian freighter 'S' which was navigating along the Kanmon Passage. After leaving Sunatsu Passage, 'H' entered the Kanmon Passage.

On the other hand, the freighter 'S', navigating eastward in the Kanmon Passage, sighted 'H' entering the Kanmon Passage from Sunatsu Passage and proceeded whilst watching her movements. Although the tanker didn't show any signs of keeping out of her way, the freighter continued navigating without sounding warning signals, and the two vessels collided.



In Kanmon Port, in the event of a risk of encounter between a vessel navigating along the Kanmon Passage and another one navigating along another passage, any vessel from another passage shall keep out of any vessel navigating along the Kanmon Passage.

The vessel intending to enter the Kanmon Passage from another passage should do so after ensuring that she is keeping clear of other vessels navigating along the Kanmon Passage by, for example, slackening her speed in ample time.

3. Other cases of Maritime accidents

3.1 The News Letter, Japan Transport Safety Board, Special issue, August,2010

3.2 The News Letter, Japan Transport Safety Board, No.12 issue, October,2011

3.3 The digest, Japan Transport Safety Board

List of references

(1) MAIA News Letter, Marine Accident Inquiry Agency, No. 36 issue, April, 2007

(2) MAIA News Letter, Marine Accident Inquiry Agency, No. 37 issue, May, 2007

(3) MAIA Digest, Marine Accident Inquiry Agency, No. 4 issue, January, 2008