



## SAFETY INVESTIGATION REPORT

201905/020

REPORT NO.: 12/2020

May 2020

The Merchant Shipping (Accident and Incident Safety Investigation) Regulations, 2011 prescribe that the sole objective of marine safety investigations carried out in accordance with the regulations, including analysis, conclusions, and recommendations, which either result from them or are part of the process thereof, shall be the prevention of future marine accidents and incidents through the ascertainment of causes, contributing factors and circumstances.

Moreover, it is not the purpose of marine safety investigations carried out in accordance with these regulations to apportion blame or determine civil and criminal liabilities.

### NOTE

This report is not written with litigation in mind and pursuant to Regulation 13(7) of the Merchant Shipping (Accident and Incident Safety Investigation) Regulations, 2011, shall be inadmissible in any judicial proceedings whose purpose or one of whose purposes is to attribute or apportion liability or blame, unless, under prescribed conditions, a Court determines otherwise.

The report may therefore be misleading if used for purposes other than the promulgation of safety lessons.

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### **MV *PERSENK*** **Collision with cargo vessel** ***AHMET CAN*** **in position 40° 46.0' N 027° 35.7' E** **on 18 May 2019**

### SUMMARY

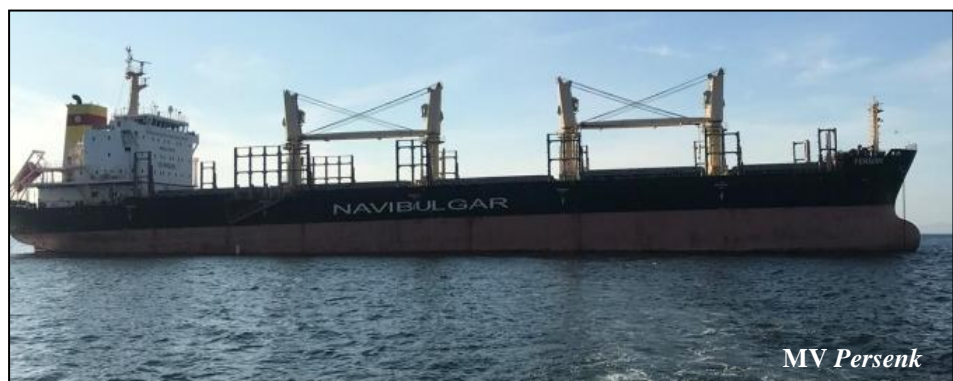
The Maltese registered bulk carrier *Persenk* was on passage from Istanbul Anchorage to Ashdod, Israel. On 18 May 2019, she was involved in a collision with *Ahmet Can* in position 40° 46.0' N 027° 35.7' E, in the Sea of Marmara. The collision occurred in the afternoon and in good visibility.

At the time of the collision, both vessels were in sight of one another, making way in the Turkish Straits Traffic Separation Scheme. They were advancing along the general direction of traffic flow for that

traffic lane, albeit on a converging course. *Persenk* was gradually drawing ahead of *Ahmet Can*.

Although the weather was fine and clear, the watchkeepers on *Persenk* and *Ahmet Can* neither did they notice each other, nor discern the developing close quarter situation until *Ahmet Can* was very close and right ahead.

In view of the action taken by *Persenk's* managers, no recommendations are made in this safety investigation report.



MV *Persenk*

## FACTUAL INFORMATION

### Bulk carrier *Persenk*

*Persenk* (Figure 1) was an 18,873 gt Maltese registered bulk carrier, managed by Navigation Maritime Bulgare, Bulgaria. The vessel was built by CSS Chengxi Shipyard Co. Ltd., China, in 2010. *Persenk* as classed with the Lloyd Register of Shipping (LR).

The vessel had a length overall of 176.2 m and a moulded breadth of 26.0 m. Propulsive power was provided by a HHH-MAN-B&W 6S46MC-C7, two-stroke, slow speed diesel engine, producing 6,840 kW at 129 rpm. This drove a single fixed pitch propeller, to reach a service speed of 14.2 knots.



Figure 1: MV *Persenk*

*Persenk* is equipped with the following navigational equipment:

- Global Positioning Systems (GPS);
- Gyro and Magnetic Compasses;
- S-Band and X-Band radars with automatic radar plotting aid (ARPA);
- Automatic Identification System (AIS);
- Speed and distance log (through the water);
- Bridge Navigation Watch Alarm System (BNWAS);
- Echo Sounder; and
- Voyage Data Recorder (VDR).

The layout of navigational equipment on the bridge is shown in Figure 2. ECDIS was the vessel's primary means of navigation. A secondary ECDIS was provided as a back-up.



Figure 2: *Persenk*'s bridge and navigational equipment layout

### General cargo *Ahmet Can*<sup>1</sup>

*Ahmet Can* (Figure 3) was a 1,972 gt general cargo vessel built in 2006 by Zhejiang Hongxin Shipbuilding, China. She was classed with Polski Rejestr Statkow and sailing under the flag of Panama. Her managers were Safir Gemi Tasimacilik Sanayi of Turkey.

The vessel had a length overall of 81.2 m and a breadth of 13.0 m. Propulsive power was provided by a G6300ZC, four-stroke, medium speed diesel engine, producing 1,3242 kW at 600 rpm. This drove a single fixed pitch

<sup>1</sup> Source:  
<https://gis.imo.org/Members/SHIPS/ShipDetails.aspx?IMONumber=9368182>  
<https://www.balticshipping.com/vessel/imo/9368182>

propeller through a reduction gearbox, to reach a service speed of 12 knots.



**Figure 3: MV Ahmet Can (following the collision)**

### **Crew members on board Persenk**

*Persenk* was manned in accordance with her Minimum Safe Manning Certificate, issued by the flag State Administration.

The master was 61 years old, holding a Certificate of Competency issued in terms of STCW Regulation II/2 and IV/2 by the Government of Bulgaria, and recognised by the flag State Administration, in accordance with the provisions of regulation I/10 of the STCW Convention. He had been working as a master for over 10 years. He had joined *Persenk* on 18 April 2019 in the port of Izmir, Turkey.

At the time of the accident, the second officer was in charge of the navigational watch. He was 27 years old and held a Certificate of Competency as navigational officer (OOW), also issued by the Government of Bulgaria. He had joined the vessel on 19 February 2019. The look-out on duty was a deck trainee. He was 24 years old and qualified in terms of the STCW Regulation II/I (navigation) and IV/2 (GMDSS).

The master, second officer and deck trainee were Bulgarian nationals.

### **Turkish Straits Traffic Separation Scheme**

The Turkish Straits covers the Sea of Marmara, Istanbul Strait and Çanakkale Strait. A Vessel Traffic Service (VTS) is organised within the Straits in accordance with the Turkish Maritime Traffic Regulations 1998, and IMO Assembly Resolutions A.827(19) and A.857(20).

Vessels transiting the Turkish Straits participate in the vessel reporting system. The IMO adopted Traffic Separation Scheme (TSS) provides traffic lanes, separated by a traffic line or zone. Navigation in the TSS is subject to Rule 10 of the International Regulations for Preventing Collisions at Sea (COLREGs), and Annex 2 of IMO Resolution A.827(19) which states:

- *vessels navigating in the Straits shall exercise full diligence and regard for the requirements of the traffic separation schemes;*
- *vessels shall follow the TSS within the Straits;*
- *vessels entering the Straits to participate in the reporting system (TUBRAP);*
- *pilotage is strongly advised for masters in order to comply with the requirements of safe navigation;*
- *a vessel that is not able to comply with the requirements of the TSS shall inform the traffic control station well in advance.*

### **Environment**

At the time of the collision, the weather in the Turkish Strait TSS was fair and the visibility was good. Wind was blowing from the South with a Beaufort Force 3 and the swell was 1.0 m. Air temperature was recorded at 20 °C.

## Narrative<sup>2</sup>

*Persenk's* passage plan was prepared from Istanbul Anchorage to Ashdod, Israel. The courses and XTDs were plotted on the ECDIS (Figure 4).

course of 217.7° for the next waypoint, located in the TSS.

At the time, *Persenk's* course and speed over the ground were 228.7° and 11.4 knots respectively (Figure 4). However, no course changes were made.



Figure 4: Image from ECDIS playback showing a segment of passage plan in the Sea of Marmara

On 18 May, following completion of the departure manoeuvres at 0745, *Persenk* sailed towards the Çanakkale Strait. She was in ballast, drawing 3.70 m forward and 6.10 m aft. At 1058, she left Sector Marmara and entered Sector Gelibolu of the Çanakkale VTS. At midday, the navigational watch was taken over by the second officer. He was joined by the ship's deck trainee who came on the bridge for lookout duties.

At 1304, *Persenk's* position and track was outside the XTD limit and running parallel to the planned course 228.6°. The S-band radar was on stand-by. Route information on the ECDIS display indicated a direct

The X-band radar was set on a range of 12 nm, North-up, relative motion. The anti-clutter control<sup>3</sup> was not set and a bright patch of about a mile radius was visible around the centre of the PPI.

There were a number of other vessels with the same or a similar route in the Strait. Three targets were being tracked on the radar, namely, Target B (*Oxana V*, speed 7.8 knots) and Target C (*Valeriy Kharlamov*, speed 6.9 knots). They were between five to six nautical miles ahead of *Persenk*. Target A (*BFP Melody*), emerging out of the clutter / bright patch, had overtaken *Persenk* at 13.3 knots. *Ahmet Can* was about 1.3 nm on

<sup>2</sup> Unless otherwise indicated, all times are local time (UTC + 3)

<sup>3</sup> Anti-clutter control is used to eliminate or reduce echoes caused by reflection against the sloping sides of the waves.

*Persenk's* port bow, on an estimated course of 240°.

*Ahmet Can* had not been acquired and displayed no navigational data on the radar. All vessels were moving in the TSS in the same direction within the traffic lane (Figure 5).

The OOW and look-out stated that at 1324, *Persenk* and *Ahmet Can* were on parallel courses, and *Ahmet Can*, without any warning or signal altered her course to starboard. The OOW immediately called the master and a minute later, the bulbous bow of *Persenk* struck *Ahmet Can* on her transom (Figures 7 and 8).

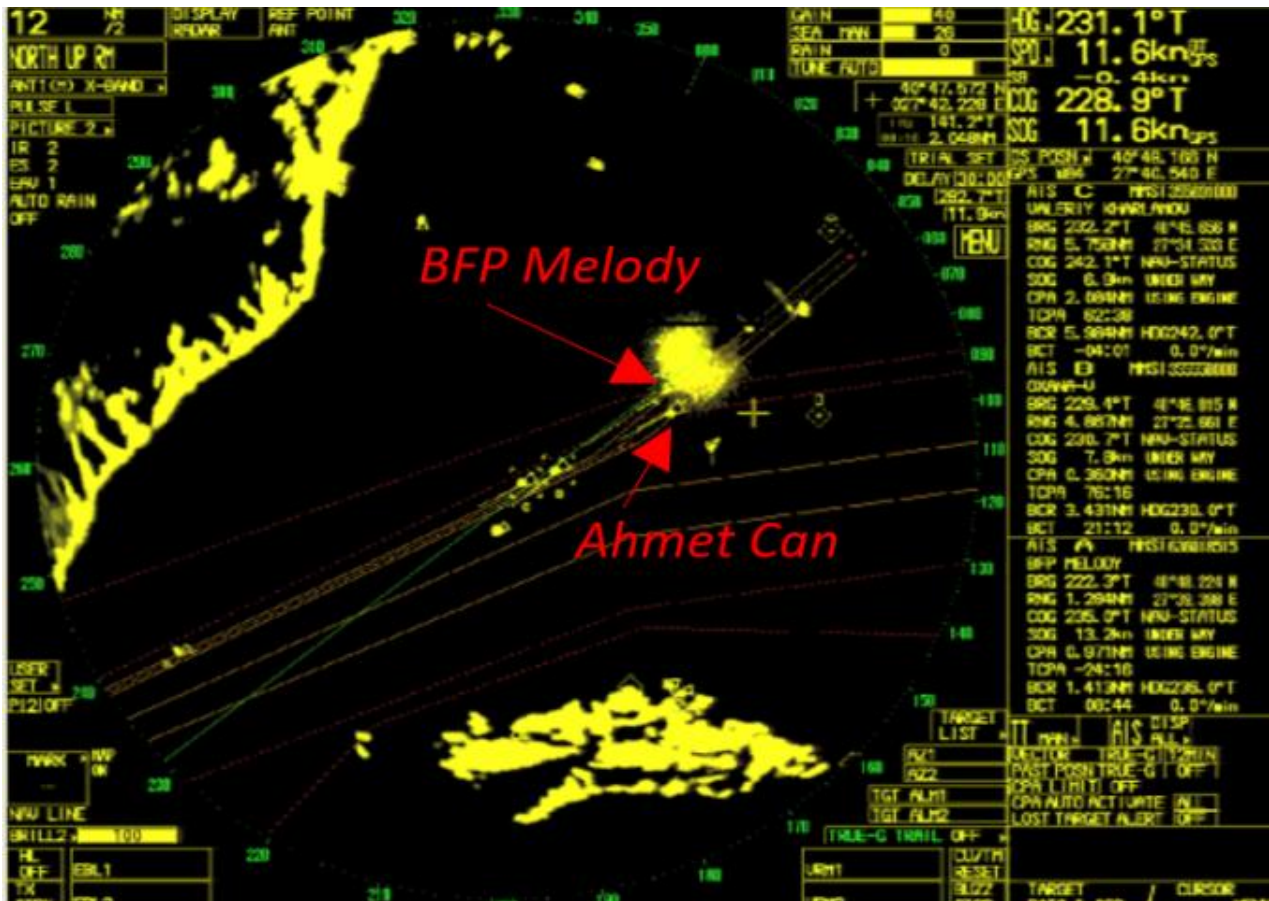


Figure 5: Radar image showing traffic situation at 1300

A few minutes after 1315, *Persenk* passed waypoint 7. The vessel's next planned course was 243°. The course was not changed and the vessel continued on her previous heading of 228.6° to decrease the XTD deviation. At this point, both *Persenk* and *Ahmet Can* were on slightly different but converging courses. *Persenk* at 11.4 knots was gradually drawing closer to *Ahmet Can*, whose radar echo had by now masked by the clutter / bright patch (Figure 6).

### Structural damages

As a result of the collision, bow plating and associated internal structural indentations was reported by Class surveyor. A damage survey report on the structural damages sustained by *Ahmet Can's* transom was not available to the MSIU.

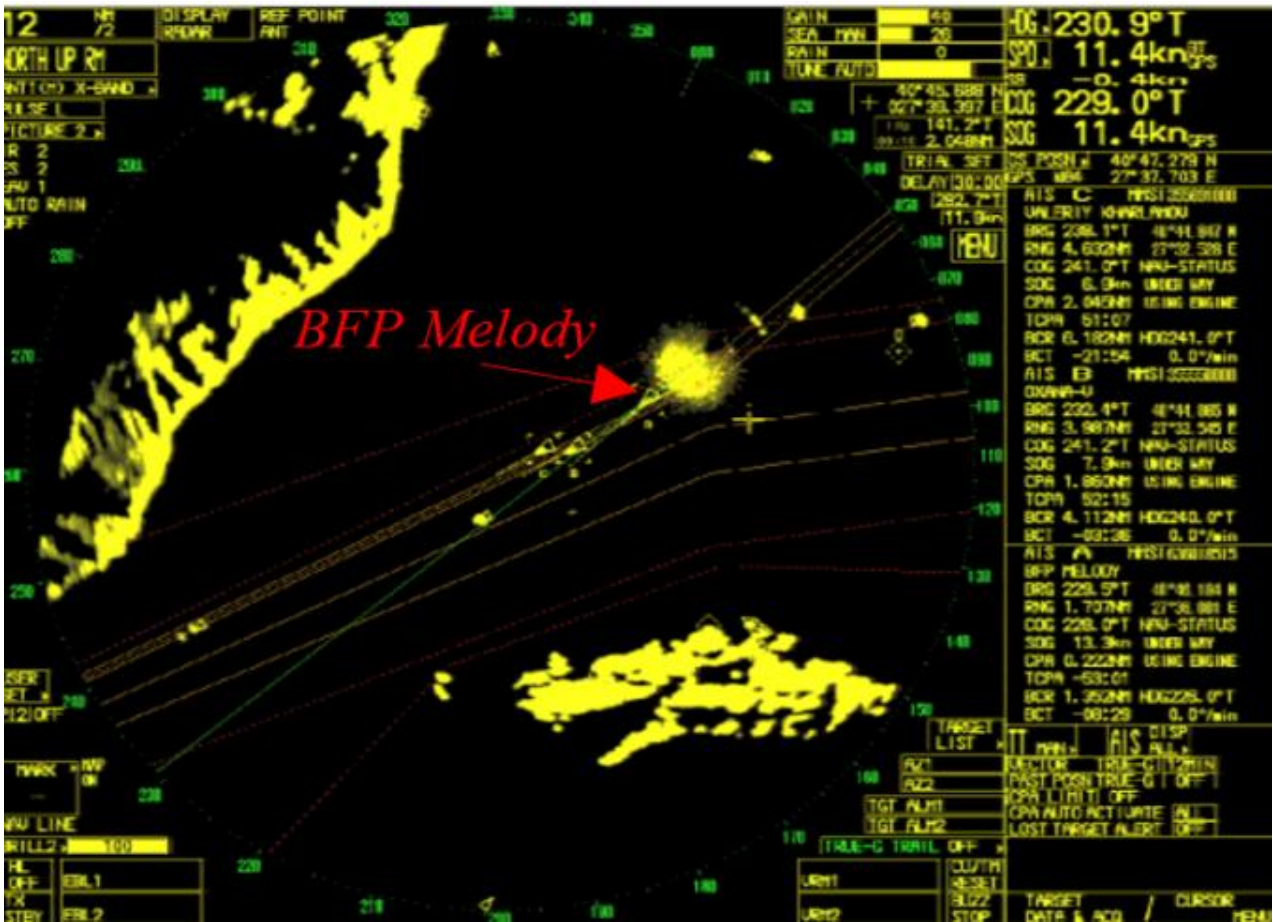


Figure 6: Radar image showing traffic situation at 1315. *Ahmet Can* echo concealed by clutter / bright patch

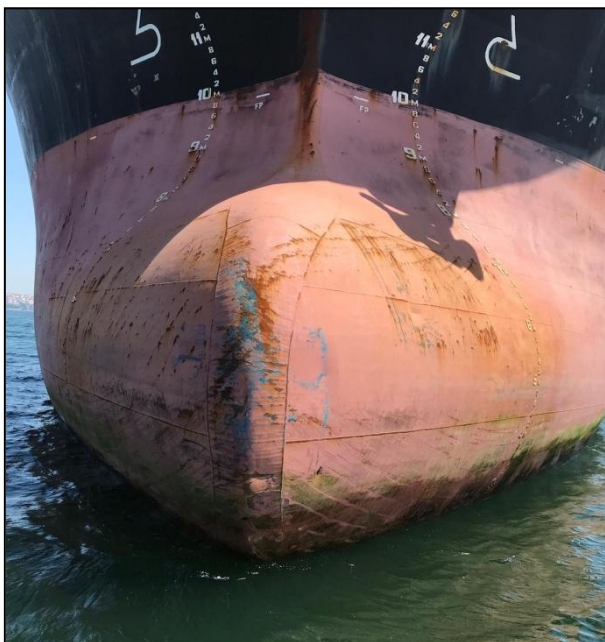


Figure 7: Photo showing slight damage to *Persenk's* bulbous bow



Figure 8: Photo showing damage sustained by *Ahmet Can*

## ANALYSIS

### Aim

The purpose of a marine safety investigation is to determine the circumstances and contributory causes of the accident as a basis for making recommendations, to prevent further marine casualties or incidents from occurring in the future.

As no information could be obtained from the owners and crew of MV *Ahmet Can*, the safety investigation report is not comprehensive and this analysis has been mainly based on *Persenk's* voyage data recorder, documentary evidence of the officers and crew, and the vessel's managers who, cooperated with the safety investigation.

### Fatigue, drugs and alcohol

The hours of rest of the OOW and deck trainee were in accordance with the ML Convention and the STCW Convention requirements. According to the Company policy, consumption of alcohol or drug is prohibited. Although, the bridge team was not tested for drug or alcohol after the accident, the MSIU did not come across any evidence which would have suggested a behaviour influenced by fatigue, drugs or alcohol.

With respect to the hours of rest of the bridge team on board *Ahmet Can*, no information was available to the MSIU.

### Lookout

Rule 5 of the COLREGs states that:

*Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision.*

Section A-VIII/2 part 4-1 of STCW 2010 (as amended) describes the principles to be observed in keeping a navigational watch. Section 13 states:

*The officer in charge of the navigational is the master's representative and primarily responsible at all times for the safe navigation of the ship, and for complying with the International Regulations for Preventing Collisions at Sea, 1972, as amended.*

Section 14 emphasises requirements of Rule 5 of the COLREGs, and further explains that lookout shall serve the purpose of:

- *Maintaining a continuous state of vigilance by sight and hearing as well as by all available means, with regard to any significant change in the operating environment;*
- *Fully appraising the situation and the risk of collision, stranding and other dangers to navigation; and*
- *Detecting ships or aircraft in distress, shipwrecked persons, wrecks, debris and other hazards to safe navigation.*

Ships moving in a TSS at a relatively slow speed are frequently approached from astern and a good visual lookout astern is equally important. In this incident, however, there was no evidence in hand to suggest that the bridge team on *Ahmet Can* were aware of *Persenk* approaching from astern. The fact that *Persenk* was almost upon her suggests that a proper lookout astern was not being kept by *Ahmet Can*.

On board *Persenk*, the second officer was the OOW. The deck trainee was on lookout duties. All navigational aids were operational and readily available to affect a safe navigational watch. An account of events submitted by the deck trainee indicated that *Ahmet Can* was already in the visual range when he arrived on the bridge. It appeared that during the period leading to the collision, the OOW neither correlated the visual

sightings with radar targets nor did he verify risk of collision.

The S-band radar was off and the X-band radar, though operational, was permanently left on the 12 nm range. There was no attempt to scale down the display to a suitable range and the cursor was not moved. ARPA was not used and *Ahmet Can* displayed no CPA or TCPA on the radar screen. Moreover, the clutter function had not been adjusted and as *Ahmet Can* approached closer, the bright patch around the PPI masked her radar echo.

Sporadic conversations recorded on the VDR suggest that the watch keepers were present on the bridge, but no visual or aural look-out was maintained and the AIS, ECDIS and ARPA were not effectively used.

#### **Assessment of the developing situation**

Vessels navigating in the Turkish Straits participate in the vessel reporting system since overtaking situations are frequent with slower vessels transiting the TSS. Guidance given in the VTS User's Guide<sup>4</sup> states that a vessel overtaking another shall inform the VTS Centre, who shall assess the traffic situation and provide information or instructions to the vessel.

The main evidence concerning the tracks of *Persenk* and *Ahmet Can* came from *Persenk*'s VDR / radar recordings and ECDIS playback. The track plots clearly showed that both vessels were on converging courses. However, there was no record of *Persenk* reporting to the VTS Centre that she was overtaking *Ahmet Can*. This suggested that the OOW was either unaware of the VTS requirement or he had no knowledge of *Persenk* overtaking *Ahmet Can*.

The OOW and lookout stated that both vessels were on a parallel course and that *Ahmet Can* altered her course to starboard and collided with *Persenk*. However, according to the information contained in the incident schematic overview, submitted by the managers of *Persenk* (Figure 9), at 1002 UTC, *Persenk* was making good a course of 228.7° and speed 11.5 knots, whilst *Ahmet Can* was making 7.9 knots.

The TCPA was 23.59 minutes and CPA was 0.02 nm which, the safety investigation believes is a clear indication of a collision risk. It was evident from the schematic diagram that for almost 24 minutes, no action had been taken to keep clear. Moreover, it seemed that *Ahmet Can*'s bridge team were unaware of the developing close quarter situation and only sighted *Persenk* just before the collision.

As no information concerning measures taken by *Ahmet Can* was available to the MSIU, the safety investigation was unable to verify the watchkeeper's claim that *Ahmet Can*'s alteration of course to starboard had caused the accident. However, given the situation and evidence available to the MSIU, it was considered likely that the change in direction by *Ahmet Can*, one minute before the condition, as reported by the OOW on board *Persenk*, may have been an attempt to get out of the way of *Persenk*, although no prior warning was sounded.

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<sup>4</sup> [http://www.turkishstraits.com/upload/docs/ug\\_en.pdf](http://www.turkishstraits.com/upload/docs/ug_en.pdf)



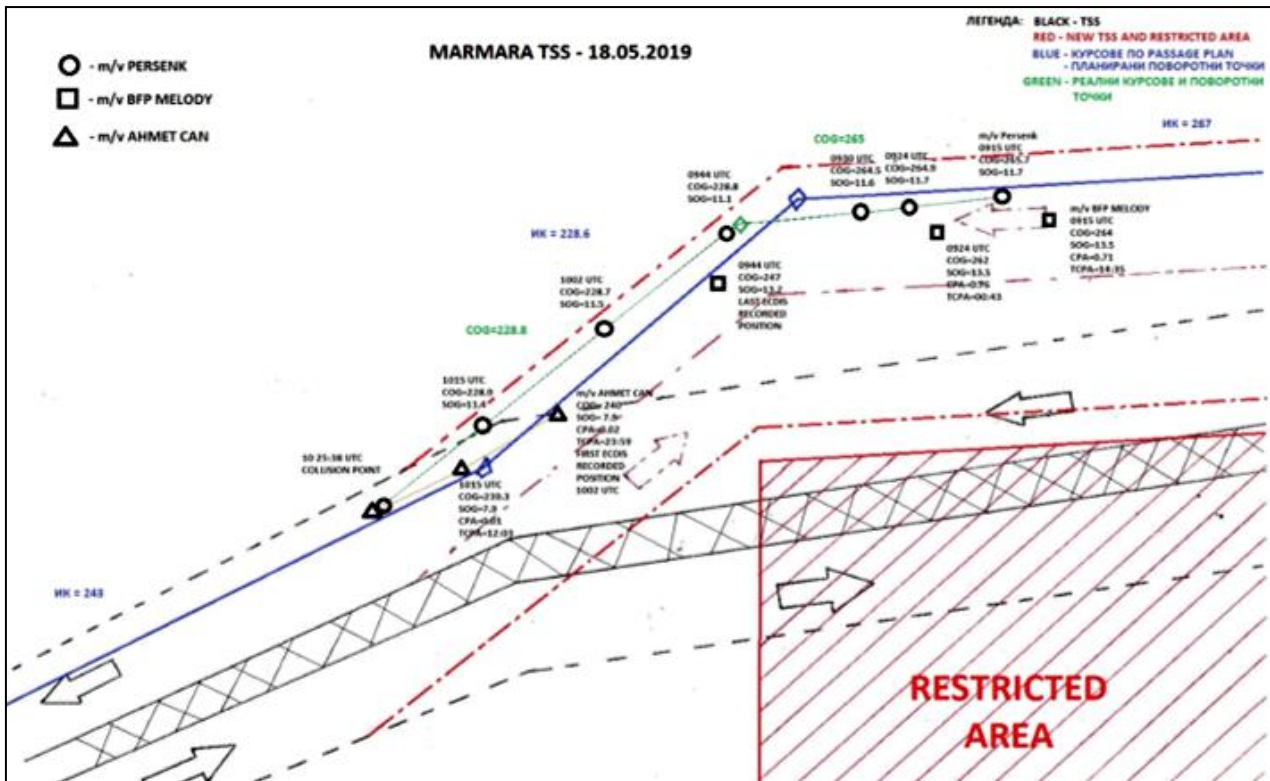


Figure 9: Schema showing navigational information and overview of vessels' movement between 1215 and 1325

## CONCLUSIONS

1. The OOWs on both vessels did not notice each other or discern the developing close quarter situation until *Ahmet Can* was very close and right ahead;
2. Visual sightings were not effectively monitored by both vessels;
3. The master's standing orders to keep a safe navigational watch were not observed;
4. The S-band radar was not switched on. The scale on the operational X-band radar was not changed to a suitable range and the sea clutter function was not correctly set;
5. ARPA was not used to acquire / track *Ahmet Can* and the relative visual bearings of were not observed;
6. Overtaking of *Ahmet Can* was not reported to the VTS Centre;
7. ECDIS, AIS and other navigational aids were not effectively used and the risk of collision with *Ahmet Can* was not recognised;
8. *Ahmet Can*'s radar echo masked by the sea clutter / bright patch was not detected;
9. It is likely that the OOW was not monitoring the radar display or trying to correlate the target with visual sightings;
10. *Persenk* was sailing outside of the planned XTD limit. No course adjustment was made to set the vessel on the planned track or to the next waypoint;
11. The OOW perceived *Persenk* and *Ahmet Can* proceeding on parallel course without a clear indication of the CPA or TCPA between the two vessels;

12. The OOW did not notice *Ahmet Can* until immediately before the collision. No action was taken other than calling the master on the bridge;
13. The bridge team on *Ahmet Can* was not keeping a proper look-out astern of the vessel and noticed *Persenk* only just before the collision;
14. *Ahmet Can*'s sudden manoeuvre to starboard was too late to get out of the way of *Persenk*.

## RECOMMENDATIONS

In view of the action taken by *Persenk*'s managers, no recommendations are made.

## SAFETY ACTIONS TAKEN DURING THE COURSE OF THE SAFETY INVESTIGATION<sup>5</sup>

*Persenk*'s managers carried out an internal investigation as required by its safety management system requirements. In terms of safety actions taken by the Company:

1. A Safety Circular on the accident was prepared and distributed fleet-wide, stressing the lessons learned from the situation and reminding the applicable regulations from the SMS, best practice guidelines, COLREGs, seamen's practice and other organizational safety aspects;
2. The details and the conclusions from the Company investigation were included and shared with masters and chief engineers during the shore-based, pre-boarding briefings;
3. A plan was made to discuss the accident during the upcoming two sessions of the Company's three-monthly shore-based ISM seminars for the fleet's senior officers.

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<sup>5</sup> **Safety actions should not create a presumption of blame and/or liability.**

**SHIP PARTICULARS**

Vessel Name:	<i>Persenk</i>	<i>Ahmet Can</i>
Flag:	Malta	Panama
Classification Society:	Lloyd Register of Shipping	Polski Rejestr Statkow
IMO Number:	9578995	9368182
Type:	Bulk Carrier	General Cargo
Registered Owner:	Persenk Maritime	Kivanc Shipping Inc.
Managers:	Navigation Maritime Bulgar	Safir Gemi Tasimacilik Sanayi
Construction:	Steel	Steel
Length Overall:	176.20 m	81.20 m
Registered Length:	168.73 m	NA
Gross Tonnage:	18873	1972
Minimum Safe Manning:	14	NA
Authorised Cargo:	Bulk cargoes	NA

**VOYAGE PARTICULARS**

Port of Departure:	Istanbul Anchorage	NA
Port of Arrival:	Ashdod, Israel	NA
Type of Voyage:	International	NA
Cargo Information:	Ballast	NA
Manning:	18	NA

**MARINE OCCURRENCE INFORMATION**

Date and Time:	18 May 2019 1325 LT	
Classification of Occurrence:	Serious marine casualty	
Location of occurrence:	40° 46.0' N 027° 35.7' E (Marmara Sea)	
Place on board	Bulbous bow	Transom
Injuries / fatalities:	None	NA
Damage/environmental impact:	None	None
Ship Operation:	In transit	NA
Voyage Segment:	Coastal	Coastal
External & Internal Environment:	Clear weather, Southerly gentle breeze. Air and sea temperature were 21 °C and 17 °C respectively.	
Persons on board:	18	NA