

Report on the investigation
into a collision between
fv Z.18 – SOETKIN and mv CALYPSO.GR
on February 12th 2021



in the English Channel
with serious damage to the fishing vessel.

Extract from European Directive 2009/18

(26) Since the aim of the technical safety investigation is the prevention of marine casualties and incidents, the conclusions and the safety recommendations should in no circumstances determine liability or apportion blame.

In view of the COVID-19 pandemic in 2020, and local rules and regulations to prevent the further spread of the virus, the investigators of the Federal Bureau for the Investigation of Maritime Accidents adhered to all legislation in vigour, which might have hampered certain investigative acts. Nevertheless, no efforts were spared to conduct the investigation, into the cause of the marine accident mentioned in this report, to the largest possible extent and conclusions were only drawn after very large consideration.

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3. GLOSSARY OF ABBREVIATIONS AND ACRONYMS

*'	Minute
°	Degree
ABC	Anglo Belgian Corporation
AIS	Automatic Identification System
BFA	Barrier Failure Analysis
Bft	Beaufort
BNWAS	Bridge Navigational Watch Alarm System
BVBA	Besloten Vennootschap met Beperkte Aansprakelijkheid (Limited Company)
C	Celsius
Cm	Centimetre
COG	Course Over Ground
COLREG	Convention on the International Regulations for Preventing Collisions at Sea
CPA	Closest Point of Approach
E	East
ECDIS	Electronic Chart and Display System
ESE	East Southeast
Etc.	Etcetera
Fv	Fishing Vessel
GMBH&Co	Gesellschaft mit beschränkter Haftung (Limited Company)
HDG	Heading
IMO	International Maritime Organization
kW	kiloWatt
LT	Local Time
m	Metres
m/s	Metres per Second
MMSI	Maritime Mobile Service Identity
N	North
N°	Number
nm	Nautical Miles
OOW	Officer Of the Watch
PANDI	Protection And Indemnity
PS	Portside
RNLI	Royal National Lifeboat Institution
ROT	Rate of Turn
SB	Starboard
SMS	Safety Management System
SOG	Speed Over Ground
TSS	Traffic Separation Scheme
VDR	Voyage Data Recorder
VHF	Very High Frequency

4. MARINE CASUALTY INFORMATION

4.1 RESUME

Throughout this report all times are in Central European Time, UTC+1, unless specified.

On February 12th 2021, at 03:51 hours, Belgian fv Z.18 - SOETKIN collided with the Marshall Islands registered bulk carrier CALYPSO.GR in the English Channel, 15 nm WxN off Greenwich lightship.

A helicopter from the UK Coastguard and an all-weather lifeboat from Selsey's Royal National Lifeboat Institution¹ were called in for assistance.

On board fv Z.18 – SOETKIN, the collision had resulted in structural damage above the waterline and damage to the trawl gear.

The mv CALYPSO.GR was dented in the hull near the SB anchor lock. A part of the deck equipment, on SB side, such as railings, vents, an accommodation ladder and some hatch covers, were damaged as well.

No serious personal injuries or pollution were reported.

The mv CALYPSO.GR continued her voyage towards Mexico and the fv Z.18 - SOETKIN returned to Zeebrugge by her own means.

¹ Royal National Lifeboat Institution: The RNLI is a charity organisation that saves lives at sea. They provide, on call, a 24-hour lifeboat search and rescue service and a seasonal lifeguard service. Source: www.rnli.org

4.2 CLASSIFICATION OF ACCIDENT

According to Resolution A.849(20) of the IMO Assembly of November 27th 1997, Code for the investigation of Marine Casualties and Incidents, a *serious marine casualty* means a marine casualty involving a fire, explosion, grounding, contact, heavy weather damage, ice damage, hull cracking suspected hull defect, etc., resulting in:

- structural damage rendering the ship unseaworthy, such as penetration of the hull underwater, immobilization of main engines, extensive accommodation damage etc.
- or pollution (regardless of quantity).
- and/or a breakdown necessitating towage or shore assistance.

According to this definition, the accident was classified as a

SERIOUS MARINE CASUALTY

4.3 ACCIDENT DETAILS

Time and date	February 12 th 2021, 03:52 hours, UTC+1
Location	50°27,3' N - 000°23,1' W 15nm WxN off Greenwich Lightship
Persons on board mv CALYPSO.GR	20
Persons on board fv Z.18 - SOETKIN	6
Injured persons	0

5. SYNOPSIS

5.1 NARRATIVE

On Friday February 11th 2021, the fv Z.18 - SOETKIN had left the port of Le Havre around 16:00 hours, aiming for fishing grounds in the English Channel. Later that day, around 19:15 hours, fv Z.18 – SOETKIN had started fishing SSW of Greenwich light vessel, as shown in Figure 1.

Reportedly the fishing lights, green above white, were switched on, from that moment onward.

On board fv Z.18 – SOETKIN the navigational status of the AIS had not been switched to “engaged in fishing” and remained transmitting that the vessel was “underway using engine”.

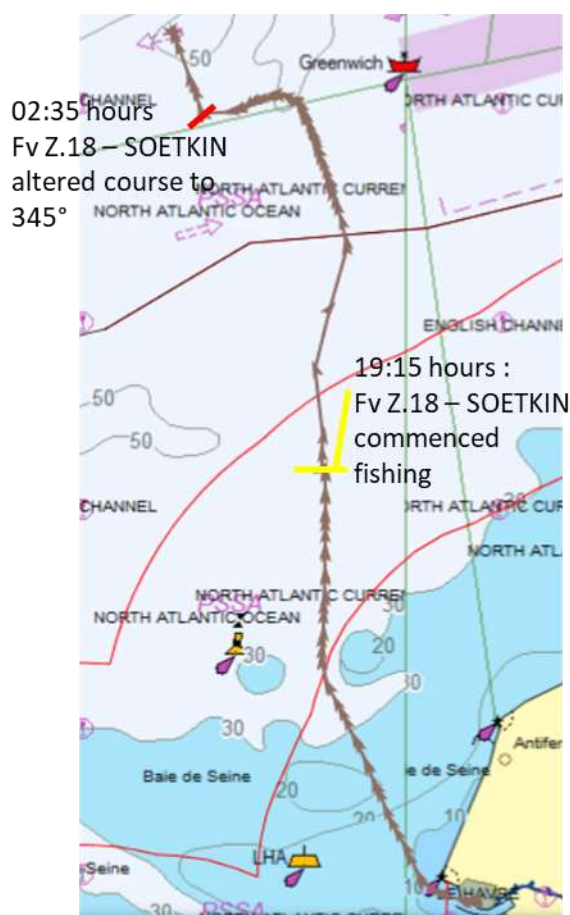


Figure 1 - Track of fv Z.18 – SOETKIN

It was a cold evening with temperatures around 0°C. A 7 bft wind was blowing from ESE direction and the sea state was moderate to rough. There was no precipitation, the sky was clear, and the visibility was good.

Around 01:00 hours, the next morning, a new fishing track was started. After the nets had been lowered, the crew returned inside the accommodation and, reportedly, the watchkeeper switched off the deck lights to improve the visibility at night from the wheelhouse.

The crew went to bed and one watchkeeper remained on duty. The watchkeeper was sitting in the helmsman's chair with all navigational equipment within reach.

The radar on board Fv Z. 18 – SOETKIN was set at a range of 12nm, north up, relative motion. No alarms to warn for a possible collision had been set.

The BNWAS was set at two minutes.

Around 02:35 hours, W of Greenwich Light Vessel, the fv Z.18-SOETKIN altered course, to continue fishing on a course of 345°, as seen in Figure 1.

Reportedly, there was not a lot of traffic that night. The Fv Z.18 – SOETKIN had not encountered any vessels on her way so far.

There was some fishing activity in the area. Five other Belgian registered fishing vessels were fishing near Greenwich Light Ship as well at that time.

Fv O.33 – MARBI, fv Z.84 – CALYPSO, fv Z.526 – VAYA CON DIOS, fv Z.121 – DEBORAH and fv Z.548 - FLAMINGO were all in the vicinity, fishing on different tracks.

On February 7th 2021, the mv CALYPSO.GR had left the port of Riga, Latvia, bound for the port of Manzanillo, Mexico. On February 12th, around 02:50 hours, the mv CALYPSO.GR left Dover Strait TSS, sailing on a course of 254°, as indicated in Figure 2. Her speed was approximately 13,5 knots.

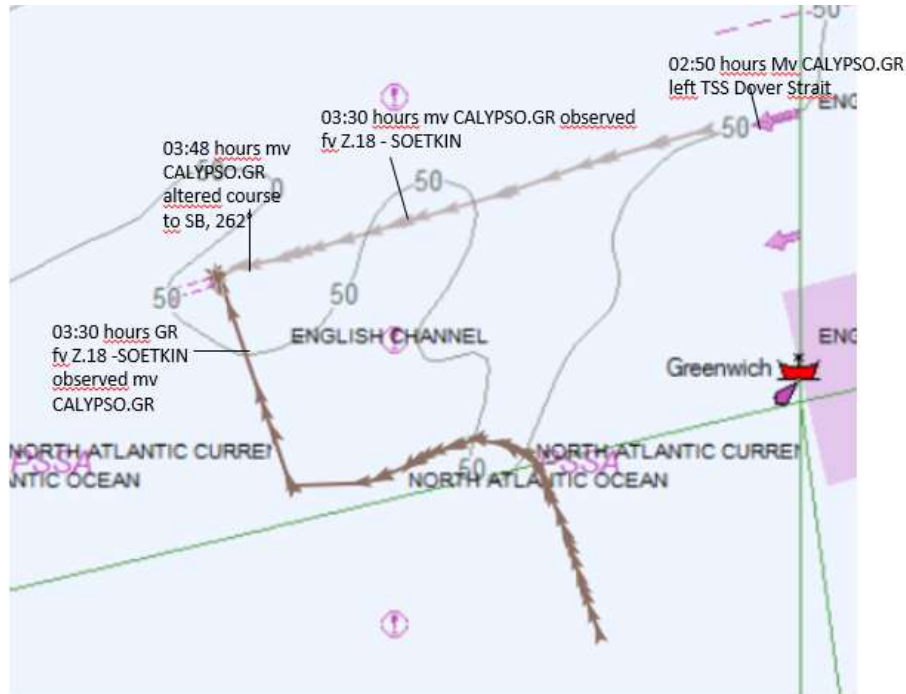


Figure 2 - Mv CALYPSO.GR leaving Dover Strait TSS

The Officer of the watch, OOW, and a look-out were present on the bridge. The radar was set at a range of 12nm, off-centre, North-up and relative motion.

The navigation lights had been switched on and the AIS was transmitting that the vessel was “underway using engine”.

The mv CALYPSO.GR was equipped with an ECDIS system that was actively used during the sea passage. Figure 3 shows how a look ahead function or anti-grounding cone was set in front of the vessel to warn in case of shallows and how cross track distance lines were set to mark the vessel's safety corridor.

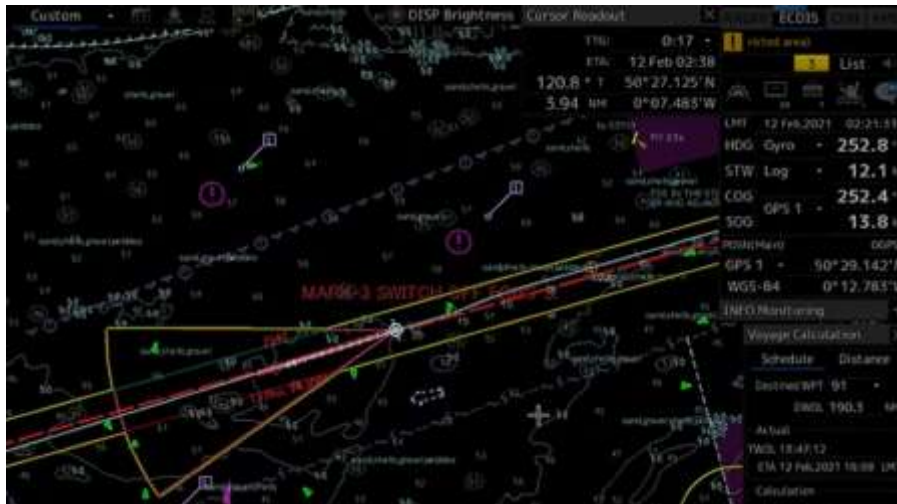


Figure 3 - ECDIS as used on board mv CALYPSO.GR

Around 03:30 hours, the watchkeeper on board the fv Z.18-SOETKIN observed the mv CALYPSO.GR on her SB bow. Since the fv Z.18-SOETKIN was engaged in fishing, the watchkeeper on board the fishing vessel identified the mv CALYPSO.GR as the give way vessel.² The fv Z.18-SOETKIN maintained her course and speed.

Around 03:30 hours, the OOW on board the mv CALYPSO.GR visually observed two fishing vessels on PS, the fv Z.526 – VAYA CON DIOS and the fv Z.18 – SOETKIN.

Figure 2 shows the positions of both vessels when they sighted each other.

The OOW noticed that the AIS status of the fv Z.18-SOETKIN indicated that the vessel was underway using engines and according to the AIS status, the fv Z.18 – SOETKIN was not engaged in fishing.

The green starboard sidelight of the fv Z.18-SOETKIN was observed, but no fishing lights were observed by the OOW.

Consequently, the OOW on board the mv CALYPSO.GR identified the fv Z.18-SOETKIN as not being engaged in fishing, and considered the mv CALYPSO.GR as the stand on vessel.³

² COLREG, Rule 18 (a,iii) : A power-driven vessel underway shall keep out of the way of a vessel engaged in fishing.

³ COLREG, Rule 15 : When two power-driven vessels are crossing so as to involve risk of collision, the vessel which has the other on her own starboard side shall keep out of the way and shall, if the circumstances of the case admit, avoid crossing ahead of the other vessel.

Around 03:45 hours, the watchkeeper on board mv CALYPSO.GR plotted the fv Z.18 – SOETKIN on the radar. The CPA with the fv Z.18 – SOETKIN was 0,0 nm and remained as such.

Subsequently, the OOW altered course to SB on the autopilot to give the fv Z.18 – SOETKIN some manoeuvring space. At 03:48 hours, the mv CALYPSO.GR was sailing on her new course of 262°.

The watchkeeper on board the fv Z.18 – SOETKIN noticed that the mv CALYPSO.GR had altered course to SB, supposably to keep clear from fv Z.18- SOETKIN.

At 03:50 hours, the watchkeeper on board the fv Z.18 - SOETKIN noticed that the mv CALYPSO. GR was not turning further to SB and that the risk of collision was still present. The watchkeeper decided to turn hard to SB to pass behind the mv CALYPSO.GR in order to avoid a collision.

Only seconds later, the OOW on board the mv CALYPSO.GR decided to turn the rudder hard to PS in order to pass astern of the fv Z.18 - SOETKIN and in order to avoid a collision. The OOW reported that the bow of the fv Z.18 – SOETKIN was already crossing the bow of the mv CALYPSO.GR at that moment.

No VHF communication between both vessels had taken place, nor were any sound or light signals given by any of the vessels.⁴

Around 03:51 hours, the watchkeeper on board the fv Z.18 - SOETKIN noticed that the mv CALYPSO.GR was turning hard over PS. Reportedly, he immediately stopped the propeller.⁵

Seconds later, both vessels collided. The SB bow of the mv CALYPSO.GR collided with the PS bow of the fv Z.18 – SOETKIN. At the time of impact, the mv CALYPSO GR was on a heading of 220° and the fv Z.18 – SOETKIN was on a heading of 104°. Figure 4 represents the situation when both vessels where manoeuvring, just before impact.

⁴ COLREG Rule 34, Manoeuvring and warning signals

⁵ Fv Z.18 – SOETKIN was equipped with a reverse gearbox, the propeller shaft was clutched out.

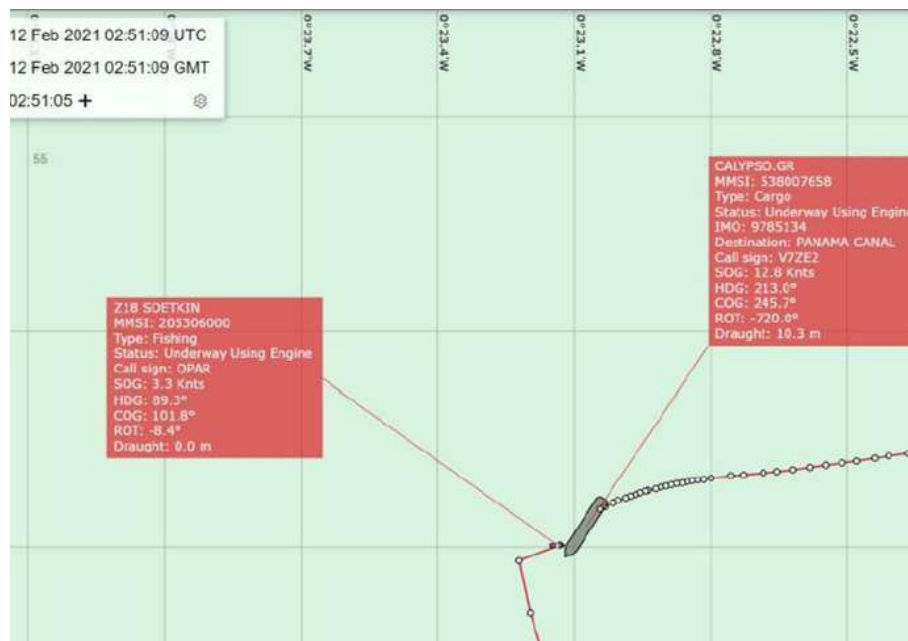


Figure 4 - Manoeuvres based on AIS data

With the mv CALYPSO.GR still turning and making way through the water, the SB side of the mv CALYPSO.GR hit the PS derrick the fv Z.18 – SOETKIN. The derrick moved upwards and came into contact with deck equipment on board the mv CALYPSO.GR. Meanwhile, the propeller of fv Z.18 – SOETKIN was started again.

The derrick and/or fishing block of the fv Z.18-SOETKIN entangled in the deck equipment of mv CALYPSO.GR and subsequently, fv Z.18 – SOETKIN got pulled by the mv CALYPSO.GR. During half a minute, the ground speed of the fv Z.18 – SOETKIN increased to 9 knots. The vessel listed over SB and reportedly, water came on deck. Wires connected to the fishing gear on board the fv Z.18 - SOETKIN broke and the fishing warps sank onto the seabed.

The skipper of the fv Z.18 - SOETKIN, who was asleep in his cabin, adjacent to the bridge, was thrown from his bed as a result of the impact of the collision and, reportedly, had to crawl to the bridge because of the vessel's list.

Once the fv Z.18 – SOETKIN got free again from the mv CALYPSO.GR, her speed dropped immediately, and the list decreased to zero.

The watchkeeper informed the skipper that a collision had taken place. Immediately, all crewmembers were mustered, with a lifejacket. Subsequently, the vessel was inspected for flooding.

During the collision, the PS derrick got separated from the lanyards and was hanging in the water, remaining attached to the mast by the swivel, as shown in Figure 5.



Figure 5 - PS derrick of fv Z.18 - SOETKIN hanging in the water

Meanwhile, on board the mv CALYPSO.GR, the OOW had called the Master who immediately came to the bridge. When the Master arrived on the bridge, the fv Z.18 – SOETKIN was already free of the mv CALYPSO.GR. The mv CALYPSO.GR was still turning over PS at that time.

The Master reported that he saw the fishing vessel SB aft, approximately 20 metres behind the mv CALYPSO.GR. The Master did only observe deck lights on board of the fishing vessel.

At 02:53 hours, the Master of the mv CALYPSO.GR took the con and started the emergency procedures to offer assistance to the affected fishing vessel and to identify the damages on board his own vessel.

At 02:54 hours, the Chief Engineer on board the mv CALYPSO.GR was called to prepare the engine for an emergency slow down. Subsequently, the Chief Officer was called to identify the damages on board.

Meanwhile, the crew of the fv Z.18 - SOETKIN assessed the damage on board and reported the situation to the fv Z.84 – CALYPSO, one of the Belgian registered fishing vessels nearby. From this moment onward, the fv Z.18-SOETKIN and the fv Z.84-CALYPSO were in regular contact with each other in order to inform about the situation on board the fv Z.18 - SOETKIN.

In the following minutes, on board the mv CALYPSO.GR the Not Under Command lights⁶ were switched on and the VDR data was safeguarded. The mv CALYPSO.GR hailed the fv Z.18-SOETKIN on VHF channel 16 and once the fishing vessel responded, the conversation continued on VHF channel 77.

The fv Z.18-SOETKIN reported to the mv CALYPSO.GR that the collision had caused some serious damage on board. The crew of the fv Z.18 – SOETKIN was still checking if there had been any flooding on board.

Around 02:59 hours, the engine of the mv CALYPSO.GR was slowed down and the vessel stayed stand-by to assist the fv Z.18 – SOETKIN, if necessary.

At 04:02 hours, the fv Z.18 – SOETKIN hailed Solent Coastguard on VHF channel 16 to report that a collision had taken place and to report that the fishing vessel was holed, but no flooding had been observed.

Subsequently, Solent coastguard hailed both collided vessels several times in order to be informed about the situation on board and the damages suffered. Solent coastguard learned that nobody got injured and that no persons had fallen overboard. No flooding had been observed so far. Solent coastguard was also informed that the fv Z.18 – SOETKIN was disabled since one derrick was hanging in the water and the fishing warps were resting on the seabed and could not be recovered back on board.

At 04:20 hours, the Chief Officer on board the mv CALYPSO.GR reported to the Master that there was no obstruction to continue the voyage. There was damage to deck equipment and also to the SB bow, but the bow was not holed. No pollution nor loss of stability were reported.

At 04:31 hours, an all-weather lifeboat of Selsey's RNLI, proceeded to the scene in order to assess the damage to the bow of the fv Z.18- SOETKIN with regard to the possibility of water ingress.

At 04:38 hours, Solent Coastguard broadcasted a MAYDAY relay on behalf of fv Z.18 – SOETKIN.

A helicopter from the UK Coastguard proceeded towards the scene at 04:53 hours where it arrived at 05:15 hours.

⁶ COLREG: The term "vessel not under command" means a vessel which through some exceptional circumstance is unable to manoeuvre as required by these Rules and is therefore unable to keep out of the way of another vessel. Vessels not under command shall exhibit two all-round red lights in a vertical line where they can best be seen.

At 05:46 hours, the mv CALYPSO.GR confirmed her condition to Solent Coastguard and continued her voyage.

At 06:04 hours, the lifeboat arrived at the fv Z.18 – SOETKIN. The recordings made by the RNLI upon arrival showed that the deck lights, fishing lights and navigational lights of the fv Z.18- SOETKIN were working at that moment, as shown in Figure 6.



Figure 6 - Fv Z.18 - SOETKIN after collision

The RNLI lifeboat reported that the PS bow of the fv Z.18 – SOETKIN was holed approximately 3 m above the waterline.

At 06:15 hours, Solent coastguard dismissed the helicopter.

At 07:21 hours, the fv Z.18 - SOETKIN reported that they managed to get the PS derrick back on board. The two fishing warps had not been recovered and were lying on the bottom. The fv Z.18 - SOETKIN also reported that full propulsion and steering were available.

Subsequently, the lifeboat was dismissed from the scene.

At 07:41 hours, the fv Z.18 – SOETKIN returned towards Zeebrugge, and Solent Coastguard terminated the SAR operation.

The next day, February 13th 2021, around 05:00 hours, the fv Z.18 - SOETKIN arrived in Zeebrugge where it safely moored alongside as seen in

Figure 7.



Figure 7 - Fv Z.18 - SOETKIN moored in Zeebrugge

6. FACTUAL INFORMATION

6.1 VESSEL'S PARTICULARS – FV Z. 18 - SOETKIN



Figure 8 - Fv Z.18 – SOETKIN

Picture: schippertje.be

Type	Fishing vessel – beam trawler
Flag	Belgium
Port of Registry	Zeebrugge
Call Sign	OPAR
IMO N°	9222065
Gross Tonnage	386
Net Tonnage	115
Keel Laid	2000
Shipyard	Scheepswerf V.D. Werff & Visser
Manager	BVBA Rederij Versluys-Couwyzer
Max. Engine Power	905 kW
Main Engine Type	ABC diesel engine
Service speed	13 knots
LOA	37,79 m
LBPP	33,01 m
BOA	8,56 m

6.2 VESSEL'S PARTICULARS – MV CALYPSO.GR



Figure 9 - Mv CALYPSO.GR

Picture: vesselfinder.com

Type	Bulk Carrier
Flag	Marshall Islands
Port of Registry	Majuro
Call Sign	V7ZE2
IMO N°	9785134
Gross Tonnage	23296
Net Tonnage	12101
Summer Deadweight	37865 mt
Keel Laid	09/2017
Shipyard	Imabari shipyard, Japan
Manager	M/Maritime
N° of Main Engines	1
Max. Engine Power	6780 kW
Main Engine Type	Makita-Mitsui-MAN B&W
Service speed	14,5 knots
LOA	179,97 m
LBPP	173 m
Breadth (mld)	29,80 m
Summer Draught	10,540 m

7. DAMAGES

The fv Z.18 – SOETKIN collided with the mv CALYPSO.GR when both vessels were turning. The watchkeeper on board fv Z.18 – SOETKIN reported that the propeller was just stopped before the collision occurred, so her speed and ROT were decreasing when both vessels came into contact with each other.

The mv CALYPSO.GR was turning hard to PS with her engines full ahead at the moment of the collision.

The SB bow of the mv CALYPSO.GR first collided with the bow of the fv Z.18 – SOETKIN. At that moment, the heading of the mv CALYPSO.GR was approximately 220° and the heading of the fv Z.18 – SOETKIN was approximately 104°, as represented in Figure 10.

Exact headings at the moment of collision could not be determined since both vessels were still turning.

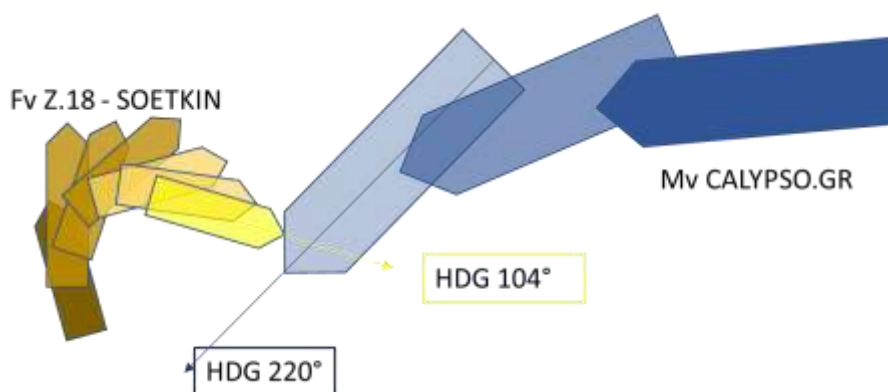


Figure 10 - Pictorial representation of the manoeuvres

On board the mv CALYPSO.GR, this first contact resulted in an indent of approximately 4,5m x 1m on SB bow, about 3m above the waterline and near the anchor lock, as seen in Figure 11.

The blue paint of the bow of the fv Z.18 – SOETKIN was well visible on the bow of the mv CALYPSO.GR



Figure 11 - Indent on SB bow of mv CALYPSO.GR

The impact of this first contact damaged the PS bow of the fv Z.18 – SOETKIN and also resulted in a hole approximately 3 m above the waterline, near the anchor lock, as seen in Figure 12. Most probably, the hole originated from the impact of the anchor of the mv CALYPSO.GR on the bow of the fv Z.18 – SOETKIN.

The damage to both vessels corresponded with the headings as reported.



Figure 12 - Damaged bow of the fv Z.18 - SOETKIN

Just behind the bow of both vessels, there was no damage. This indicated that the vessels came free off each other shortly after the first impact. This can be explained by the fact that both vessels were still turning, as shown in Figure 13.

After this first impact, the engine of fv Z.18 – SOETKIN was started again.

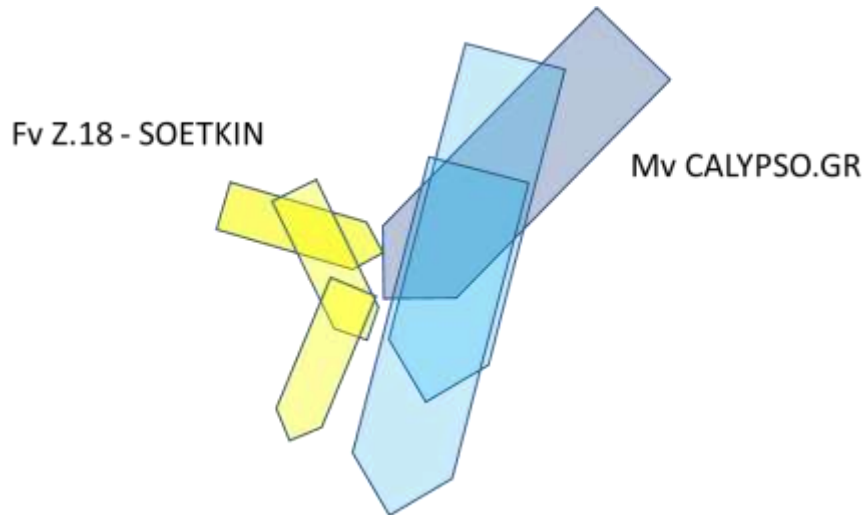


Figure 13 - Drawing of manoeuvres

As a consequence of the rotational movement of both vessels, the PS derrick, together with the attached fishing gear, of the fv Z.18 - SOETKIN came into contact with the SB railing on board the mv CALYPSO.GR in way of cargo hold N°1, behind the forecastle.

From this moment onward, the PS derrick, together with the attached fishing gear, was blocked by the railing and deck equipment on board the mv CALYPSO.GR, causing damages to air vents, hatch covers and the accommodation ladder, as shown in Figure 14, Figure 15, Figure 16 and Figure 17.

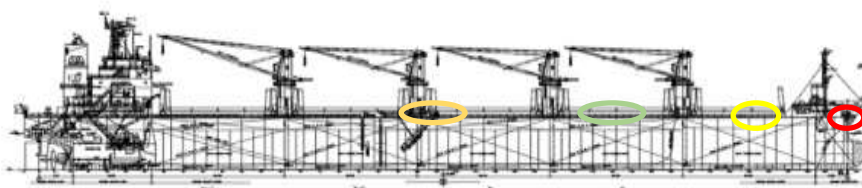


Figure 14 - Damages on board mv CALYPSO.GR

*The red circle shows the location of the impact on the bow
The yellow circle shows where the air vents were hit
The green circle is where cargo hold N°2 was located
The orange circle shows the position of the accommodation ladder*



Figure 15 - Damaged air vents of BWT N°1



Figure 16 - Damage to the hatch cover of cargo hold N°2



Figure 17 - Damaged accommodation ladder on board mv CALYPSO.GR

During the time that the derrick and the attached fishing gear were obstructed by the deck equipment of the mv CALYPSO.GR, the ground speed of the fv Z.18 – SOETKIN rapidly increased up to an approximate 9 knots, the speed of the mv CALYPSO.GR. The increase of speed lasted approximately 30 seconds and subsequently decreased to less than 2 knots . During that time, the PS derrick bounced up and down, the fishing vessel listed over SB and waves came on deck.

When the fv Z.18 – SOETKIN came loose of the mv CALYPSO.GR, the PS derrick was hanging in the water, only attached to the mast by means of the swivel, as shown in Figure 5 and Figure 6. Both PS and SB trawls were lying on the seabed and could not be recovered.

Besides the serious damage to the fishing gear and the loss of the fishing trawls, also 3 accommodation windows got damaged.

The engineer on board fv Z.18 – SOETKIN reported that also the fuel separator had stopped working, probably due to the list of the vessel.

Figure 18 shows the PS derrick of the fv Z.18 – SOETKIN after arrival in Zeebrugge. In the picture, the derrick was secured, but not yet repaired.



Figure 18 - PS derrick with fish block of the fv Z.18 - SOETKIN

8. ANALYSIS

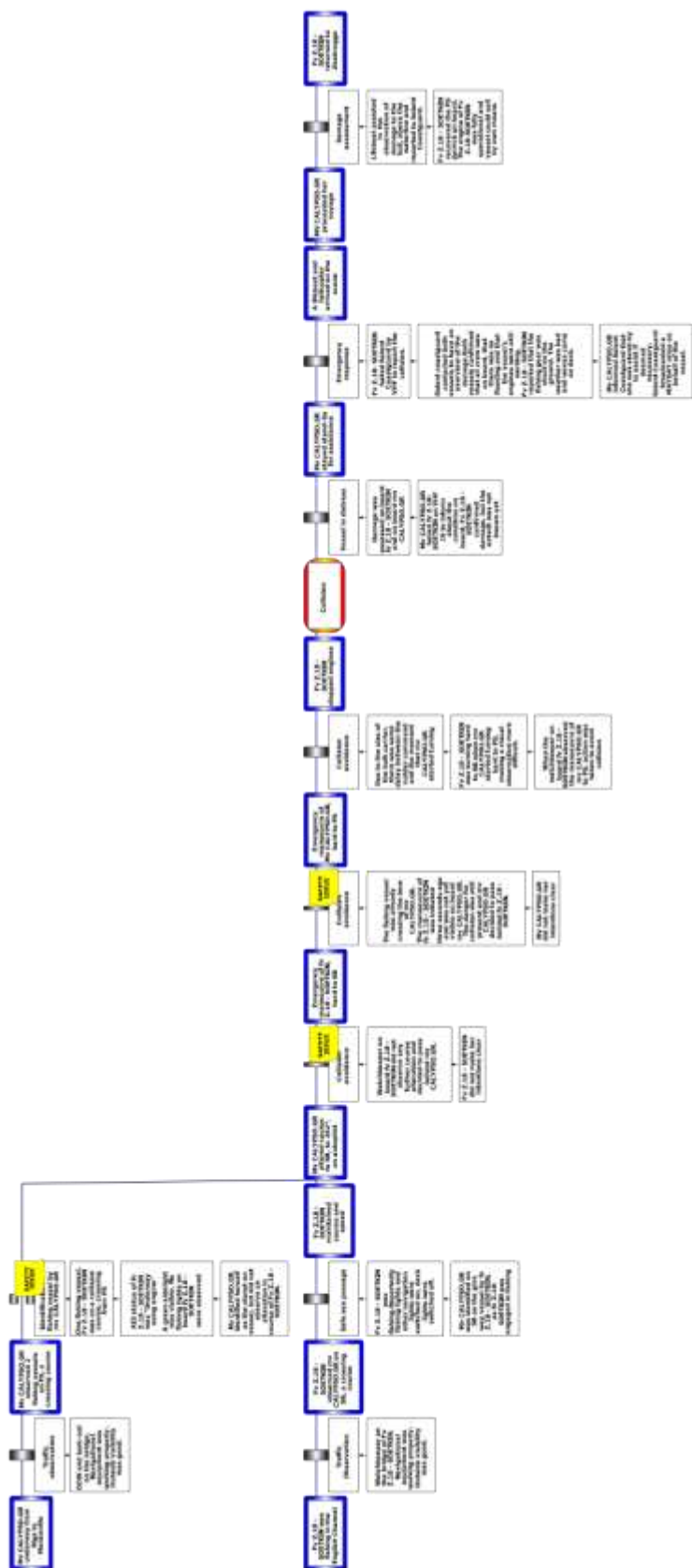
8.1 TIMELINE

Date and Time	Actor	Action
12/02/2021 1:00:00	Fv Z.18 - SOETKIN	Started fishing in the English Channel, app. 7 nm WSW of Greenwich light ship, AIS status "underway using engines", fishing lights switched on. Deck lights switched off. One watchkeeper on the bridge.
12/02/2021 1:00:00	Mv CALYPSO.GR	OOW and look out on the bridge
12/02/2021 2:35:00	Fv Z.18 - SOETKIN	Changed course to app.345°, speed 2.4 knots
12/02/2021 2:35:00	Mv CALYPSO.GR	Westbound following TSS Dover Strait, heading 254°, speed 13,6 knots, AIS status "Underway using engines"
12/02/2021 2:45:00	Mv CALYPSO.GR	Left TSS Dover Strait, heading 254°, speed 13,6 knots
12/02/2021 3:30:00	Fv Z.18 - SOETKIN	Observed mv CALYPSO.GR at 4-5nm distance on SB. Identified mv CALYPSO.GR as the give way vessel, since fv Z.18- SOETKIN was fishing
12/02/2021 3:30:00	Fv Z.18 - SOETKIN	Maintained course and speed
12/02/2021 3:30:00	Mv CALYPSO.GR	Observed two fishing vessels on PS. Identified fv Z.18 as the give way vessel: only green sidelight observed, no fishing lights. Received AIS status of fv Z.18 - SOETKIN: "underway using engine"
12/02/2021 3:45:00	Fv Z.526 - VAYA CON DIOS	Fishing 0,6nm PS quarter of fv Z.18 - SOETKIN, heading 355°, fv Z.526 just turned 180°
12/02/2021 3:45:00	Mv CALYPSO.GR	The fv Z.18 – SOETKIN was plotted on the radar. The CPA with fv Z.18-SOETKIN was 0,0nm.
12/02/2021 3:45:00	Mv CALYPSO.GR	Course altered to SB on automatic pilot, speed maintained
12/02/2021 3:48:00	Mv CALYPSO.GR	Heading 262°
12/02/2021 3:49:45	Fv Z.18 - SOETKIN	Turned hard to SB
12/02/2021 3:49:45	Fv Z.18 - SOETKIN	Horn not used, no VHF communication
12/02/2021 3:49:48	Mv CALYPSO.GR	Course alteration of the fv Z.18 - SOETKIN not observed, and rudder turned hard to PS
12/02/2021 3:49:48	Mv CALYPSO.GR	Horn not used, no VHF communication
12/02/2021 3:49:48	Fv Z.18 - SOETKIN	Turning to SB, COG 351°
12/02/2021 3:50:45	Fv Z.18 - SOETKIN	Watchkeeper stopped the engines as soon as he observed mv CALYPSO.GR turning to PS, SOG dropped to approximately 3 knots

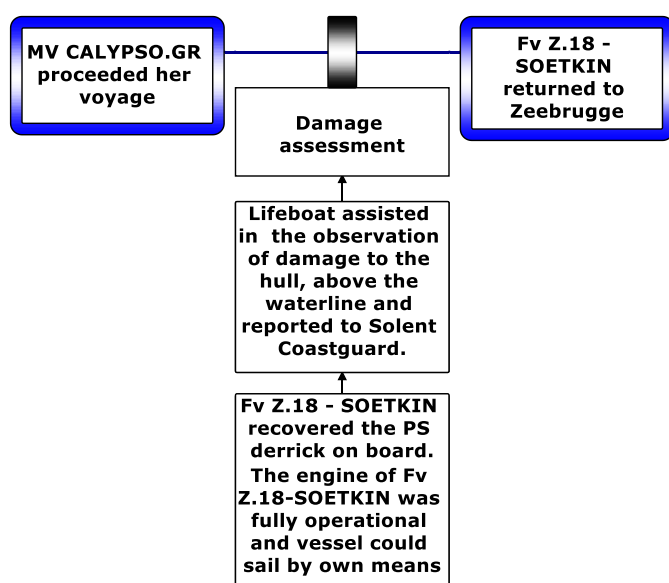
12/02/2021 3:50:50	Mv CALYPSO.GR	Heading changed more than 30° to PS, 225°
12/02/2021 3:50:52	Fv Z.18 - SOETKIN	Collision - 50° 27.45 N 000° 29.71 W
12/02/2021 3:50:52	Mv CALYPSO.GR	Collision - 50° 27.45 N 000° 29.71 W
12/02/2021 3:51:36	Mv CALYPSO.GR	Master called to the bridge
12/02/2021 3:51:36	Fv Z.18 - SOETKIN	Speed increased up to 9 knots
12/02/2021 3:51:36	Fv Z.18 - SOETKIN	Trawl gear damaged and on the bottom
12/02/2021 3:51:36	Fv Z.18 - SOETKIN	Water coming on deck, not inside
12/02/2021 3:53:00	Mv CALYPSO.GR	Hand steering towards fv Z.18 - SOETKIN to offer assistance
12/02/2021 3:53:00	Mv CALYPSO.GR	Master on the bridge, only deck lights observed of fv Z.18-SOETKIN
12/02/2021 3:53:00	Fv Z.18 - SOETKIN	SOG decreased to <2 knots
12/02/2021 3:54:00	Mv CALYPSO.GR	Called to C/E to prepare for emergency slow down
12/02/2021 3:54:00	Mv CALYPSO.GR	Damage assessed on board
12/02/2021 3:54:00	Fv Z.18 - SOETKIN	Communication with fv Z.84 - CALYPSO in the vicinity
12/02/2021 3:56:00	Fv Z.18 - SOETKIN	Answered call of mv CALYPSO.GR, communication stopped
12/02/2021 3:56:00	Mv CALYPSO.GR	Hailed fv Z.18 - SOETKIN on VHF 16
12/02/2021 3:56:00	Mv CALYPSO.GR	Proposed to switch to VHF 77
12/02/2021 3:57:00	Mv CALYPSO.GR	Hailed fv Z.18 - SOETKIN again on VHF 16
12/02/2021 3:57:00	Mv CALYPSO.GR	Proposed to switch to VHF 77
12/02/2021 3:57:00	Fv Z.18 - SOETKIN	Conversation with mv CALYPSO.GR on VHF 77, damage confirmed, still checking if there is flooding
12/02/2021 3:57:00	Mv CALYPSO.GR	Asked fv Z.18 - SOETKIN if assistance was required
12/02/2021 3:59:00	Mv CALYPSO.GR	Engine slowed down
12/02/2021 4:01:00	Fv Z.18 - SOETKIN	Communication with fv Z.84 - CALYPSO in the vicinity
12/02/2021 4:02:00	Fv Z.18 - SOETKIN	Hailed Solent Coastguard on VHF 16
12/02/2021 4:02:00	Fv Z.18 - SOETKIN	Reported collision and damage. Fishing gear on the ground. Not taking water
12/02/2021 4:02:00	Solent Coastguard and Selsey Lifeboat	Received VHF call from fv Z.18 SOETKIN on channel 16, gained information regarding situation, POB, damage
12/02/2021 4:05:00	Solent Coastguard and Selsey Lifeboat	Hailed mv CALYPSO.GR
12/02/2021 4:05:00	Fv Z.18 - SOETKIN	In conversation with Solent Coastguard
12/02/2021 4:08:00	Fv Z.18 - SOETKIN	In communication with fv Z.84 - CALYPSO in the vicinity
12/02/2021 4:10:00	Fv Z.18 - SOETKIN	In conversation with Solent Coastguard
12/02/2021 4:16:00	Mv CALYPSO.GR	In conversation with Solent Coastguard

12/02/2021 4:16:00	Fv Z.18 - SOETKIN	In communication with fv Z.84 - CALYPSO in the vicinity
12/02/2021 4:16:00	Mv CALYPSO.GR	Reported that she stayed stand-by to assist fv Z.18 -SOETKIN if deemed necessary.
12/02/2021 4:16:00	Mv CALYPSO.GR	At approx. 3 cables distance from Fv Z.18-SOETKIN
12/02/2021 4:21:00	Fv Z.18 - SOETKIN	In conversation with Solent Coastguard
12/02/2021 4:23:00	Mv CALYPSO.GR	Master called Solent Coastguard by shipboard phone on the received mobile number to communicate the details of the accident, as requested by Solent Coastguard
12/02/2021 4:31:00	Solent Coastguard and Selsey Lifeboat	Lifeboat proceeded
12/02/2021 4:38:00	Solent Coastguard and Selsey Lifeboat	Broadcasted MAYDAY relay by Solent coastguard received on board mv CALYPSO.GR
12/02/2021 4:53:00	Solent Coastguard and Selsey Lifeboat	Helicopter proceeded
12/02/2021 5:15:00	Solent Coastguard and Selsey Lifeboat	Helicopter on scene
12/02/2021 5:46:00	Mv CALYPSO.GR	Reported damage on deck and minor damage on the bow, no loss of stability, no pollution and continued voyage to Manzanillo
12/02/2021 6:04:00	Solent Coastguard and Selsey Lifeboat	Lifeboat on scene
12/02/2021 6:04:00	Solent Coastguard and Selsey Lifeboat	Lifeboat reported hole 3m above waterline, no injuries
12/02/2021 6:15:00	Solent Coastguard and Selsey Lifeboat	Helicopter released from scene
12/02/2021 7:21:00	Fv Z.18 - SOETKIN	Recovered PS fishing derrick on board
12/02/2021 7:21:00	Fv Z.18 - SOETKIN	Reported full propulsion available
12/02/2021 7:21:00	Solent Coastguard and Selsey Lifeboat	Lifeboat released from scene
12/02/2021 7:41:00	Fv Z.18 - SOETKIN	Returned to Zeebrugge
12/02/2021 7:41:00	Solent Coastguard and Selsey Lifeboat	SAR operation terminated
13/02/2021 5:00:00	Fv Z.18 - SOETKIN	Berthed at Zeebrugge

8.2 BARRIER FAILURE ANALYSES DIAGRAM (BFA) - OVERVIEW

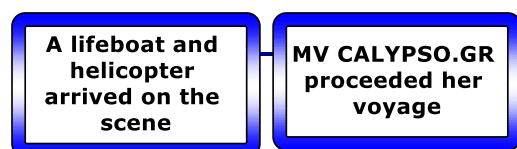


8.3 BARRIER FAILURE ANALYSIS DIAGRAM - DETAIL

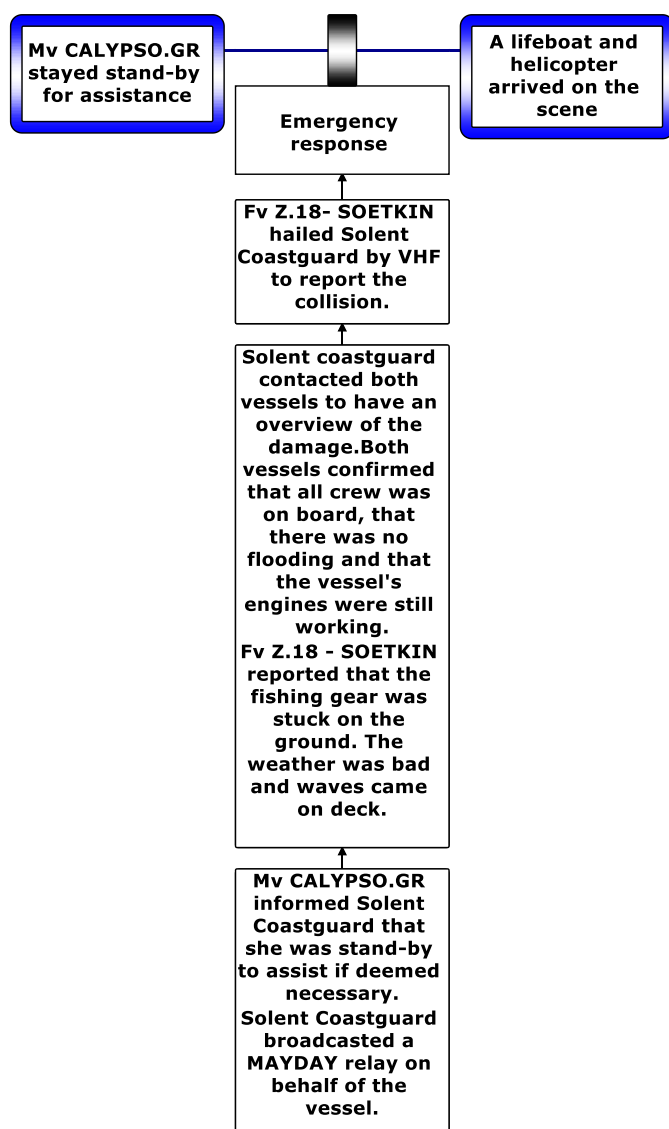


Fv Z.18 - SOETKIN returned to Zeebrugge

Incident Barrier	Performance	Barrier Challenge	Remarks
Effective	Selsey Lifeboat	Seaworthiness of the vessel	Lifeboat assisted in the assessment of damage to the hull, above the waterline and reported to Solent Coastguard.
Damage assessment	Vessel	Seaworthiness of the vessel	Fv Z.18 - SOETKIN recovered the PS derrick on board. The engine of Fv Z.18-SOETKIN was fully operational and vessel could sail by own means



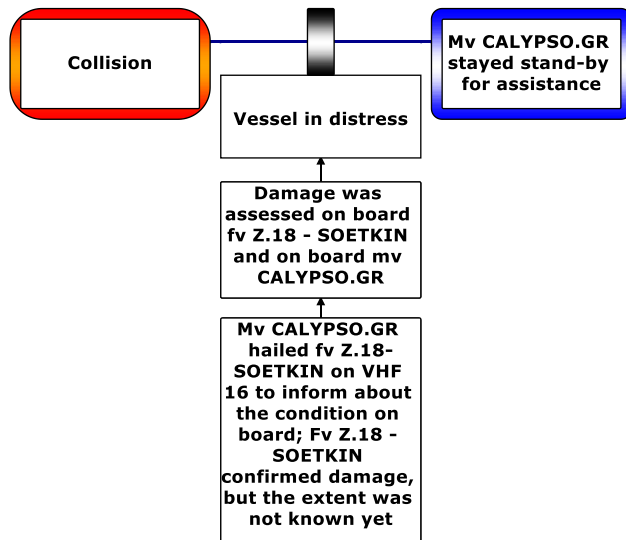
MV CALYPSO.GR proceeded her voyage



A lifeboat and helicopter arrived on the scene

Incident Barrier	Performance	Barrier Challenge	Remarks
Effective	Fv Z.18 - SOETKIN	Notification of accident	Fv Z.18- SOETKIN hailed Solent Coastguard by VHF to report the collision.
	Solent Coastguard	Assessment of accident	Solent coastguard contacted both vessels to have an overview of the damage. Both vessels confirmed that all crew was on board, that there was no flooding and that the vessel's engines were still working. Fv Z.18 - SOETKIN reported that the fishing gear was stuck on the seabed. The weather was bad, and waves came on deck.
Emergency response			

	Solent Coastguard	On-scene Assistance	Mv CALYPSO.GR informed Solent Coastguard that she was stand-by to assist if deemed necessary. Solent Coastguard broadcasted a MAYDAY relay on behalf of the vessel.
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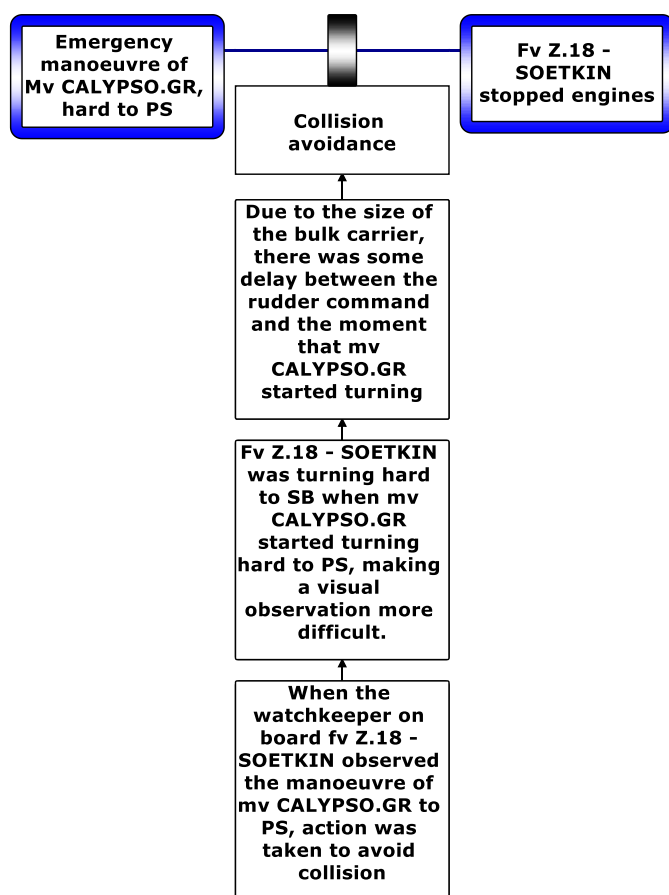


Mv CALYPSO.GR stayed stand-by for assistance

Incident Barrier	Performance	Barrier Challenge	Remarks
Effective	Vessels	Own damage assessment	Damage was assessed on board fv Z.18 - SOETKIN and on board mv CALYPSO.GR
	Vessels	Other vessel's damage	Mv CALYPSO.GR hailed fv Z.18-SOETKIN on VHF 16 to inform about the condition on board; Fv Z.18 - SOETKIN confirmed damage, but the extent was not known yet
Vessel in distress			

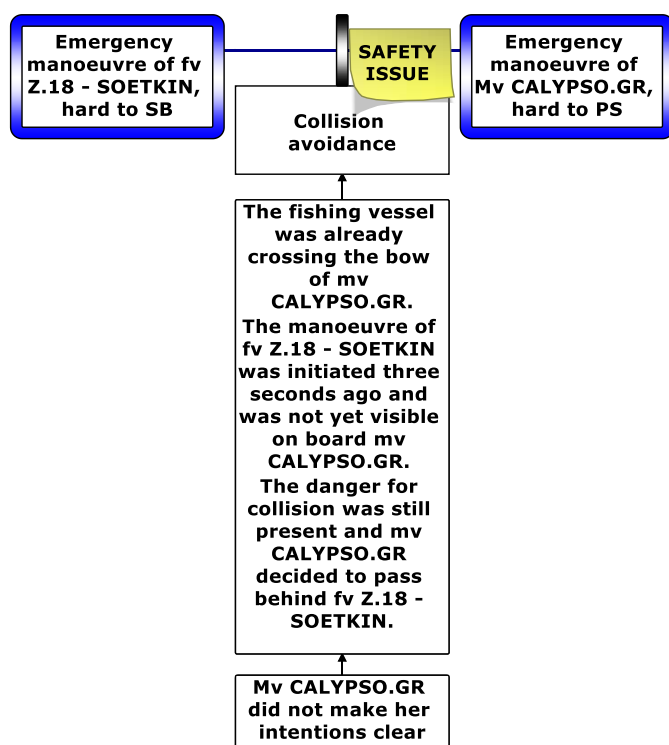


Collision



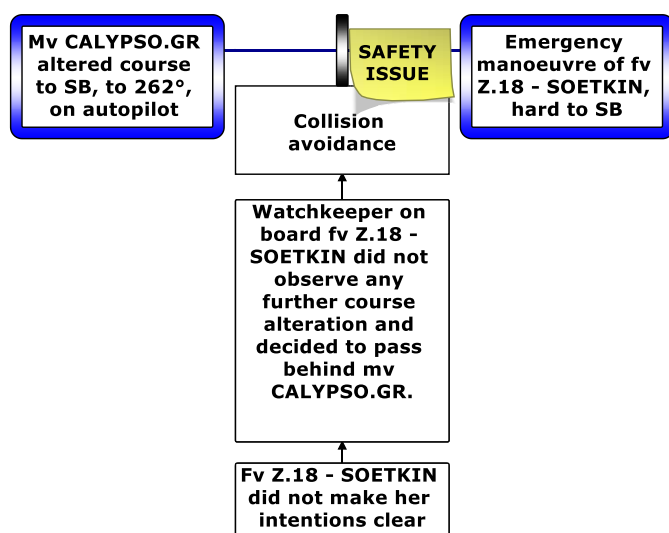
Fv Z.18 - SOETKIN stopped engines

Incident Barrier	Performance	Barrier Challenge	Remarks
Effective Collision avoidance	Mv CALYPSO.GR	Vessel's characteristics	Due to the size of the bulk carrier, there was some lag between the rudder command and the moment that mv CALYPSO.GR started turning
	Fv Z.18 - SOETKIN	Overview	Fv Z.18 - SOETKIN was turning hard to SB when mv CALYPSO.GR started turning hard to PS, making a visual observation more difficult.
	Fv Z.18 - SOETKIN	Impulse of watchkeeper	When the watchkeeper on board fv Z.18 - SOETKIN observed the manoeuvre of mv CALYPSO.GR to PS, action was taken to avoid collision



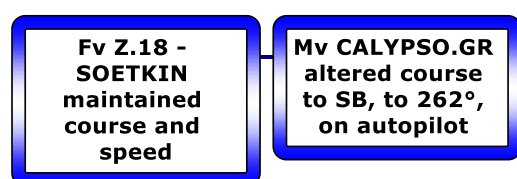
Emergency manoeuvre of Mv CALYPSO.GR, hard to PS

Incident Barrier	Performance	Barrier Challenge	Remarks
Unreliable Collision avoidance	Mv CALYPSO.GR	Overview	The fishing vessel was already crossing the bow of mv CALYPSO.GR. The manoeuvre of fv Z.18 - SOETKIN was initiated three seconds ago and was not yet visible on board mv CALYPSO.GR. The danger for collision was still present and mv CALYPSO.GR decided to pass behind fv Z.18 - SOETKIN.
	Mv CALYPSO.GR	Sound & light signals, VHF communication	Mv CALYPSO.GR did not make her intentions clear

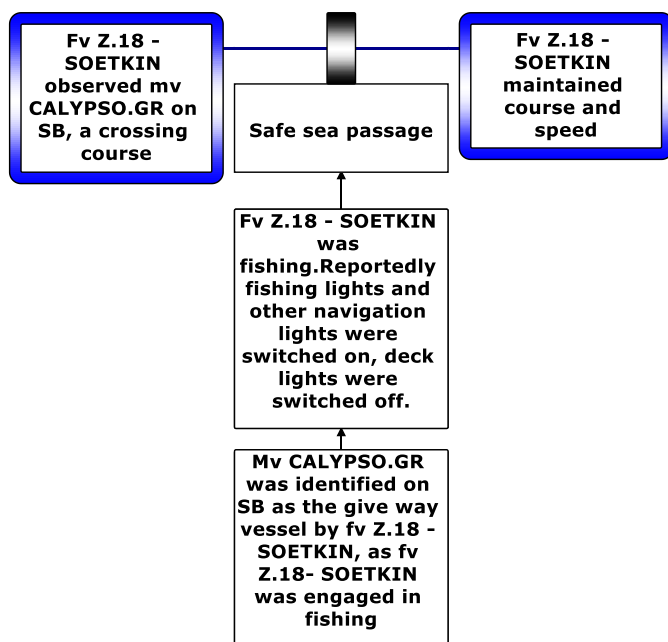


Emergency manoeuvre of fv Z.18 - SOETKIN, hard to SB

Incident Barrier	Performance	Barrier Challenge	Remarks
Unreliable Collision avoidance	Fv Z.18 - SOETKIN	Overview	Watchkeeper on board fv Z.18 - SOETKIN did not observe any further course alteration and decided to pass behind mv CALYPSO.GR.
	Fv Z.18 - SOETKIN	Sound & light signals, VHF communication	Fv Z.18 - SOETKIN did not make her intentions clear

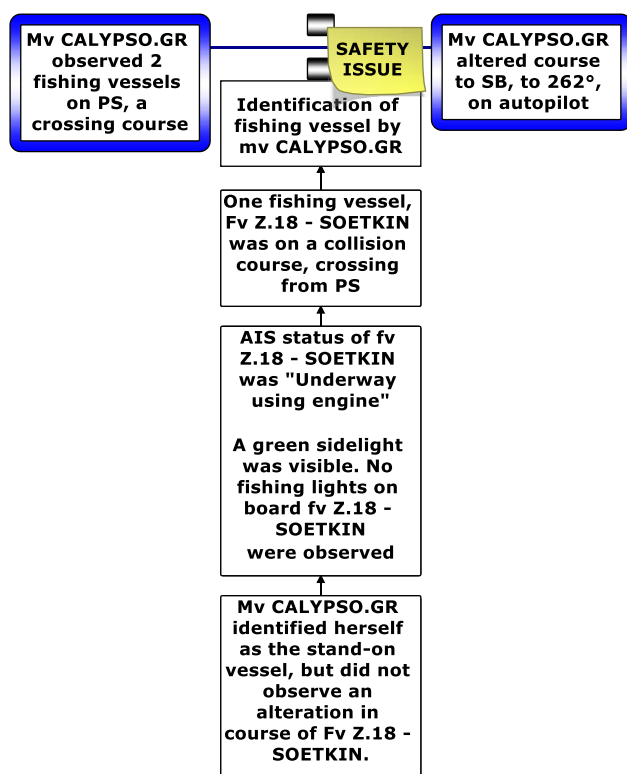


Mv CALYPSO.GR altered course to SB, to 262°, on autopilot



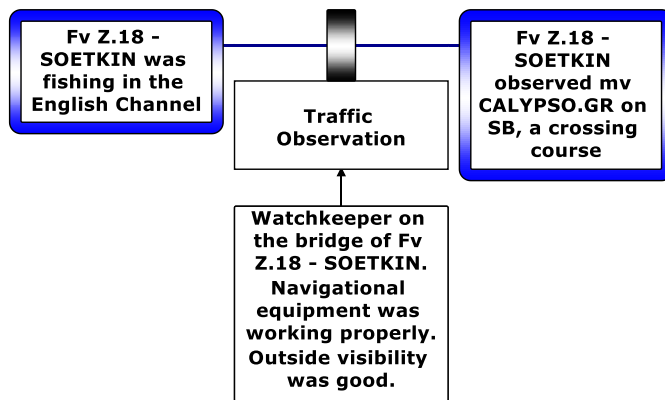
Fv Z.18 - SOETKIN maintained course and speed

Incident Barrier	Performance	Barrier Challenge	Remarks
Effective	Fv Z.18 - SOETKIN	COLREG	Fv Z.18 - SOETKIN was fishing. Reportedly fishing lights and other navigation lights were switched on, deck lights were switched off.
Safe sea passage	Fv Z.18 - SOETKIN	COLREG	Mv CALYPSO.GR was identified on SB as the give way vessel by fv Z.18 - SOETKIN, as fv Z.18- SOETKIN was engaged in fishing



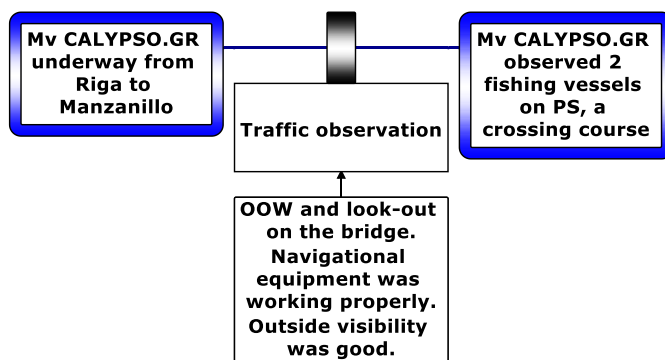
Mv CALYPSO.GR altered course to SB, to 262°, on autopilot

Incident Barrier	Performance	Barrier Challenge	Remarks
Failed Identification of fishing vessel by mv CALYPSO.GR	Fv Z.18 - SOETKIN	Observation of target	One fishing vessel, Fv Z.18 - SOETKIN was on a collision course, crossing from PS
	Mv CALYPSO.GR	Identification of target	AIS status of fv Z.18 - SOETKIN was "Underway using engine" A green sidelight was visible. No fishing lights on board fv Z.18 - SOETKIN were observed
	Mv CALYPSO.GR	COLREG	Mv CALYPSO.GR identified herself as the stand-on vessel but did not observe an alteration in course of Fv Z.18 - SOETKIN.



Fv Z.18 - SOETKIN observed mv CALYPSO.GR on SB, a crossing course

Incident Barrier	Performance	Barrier Challenge	Remarks
Effective Traffic Observation	Fv Z.18 - SOETKIN	Watchkeeping	Watchkeeper on the bridge of Fv Z.18 - SOETKIN. Navigational equipment was working properly. Outside visibility was good.



Mv CALYPSO.GR observed 2 fishing vessels on PS, a crossing course

Incident Barrier	Performance	Barrier Challenge	Remarks
Effective Traffic observation	Mv CALYPSO.GR	Watchkeeping	OOW and look-out on the bridge. Navigational equipment was working properly. Outside visibility was good.

9. CAUSE OF THE ACCIDENT

The collision between the mv CALYPSO.GR and the fv Z.18 – SOETKIN stemmed from the fv Z.18 – SOETKIN not being identified as a fishing vessel engaged in fishing on board the mv CALYPSO.GR, and the consequential assumption of the intentions of the fishing vessel by the mv CALYPSO.GR.

9.1 CONTRIBUTING FACTORS

- The fv Z.18 – SOETKIN was engaged in fishing. The AIS status of the fishing vessel was not changed from a previous status “underway using engines” to the activity at the moment of the collision, being “engaged in fishing”.
- On board the mv CALYPSO.GR, the fishing lights of the fv Z.18 - SOETKIN were not observed. The observed navigation lights of the fishing vessel corresponded with the transmitted AIS status of the fv Z.18 – SOETKIN, i.e.” under way using engine”.
- The slow speed of 5 knots of the fv Z.18 – SOETKIN was not associated on board the mv CALYPSO.GR. with fishing activities of the fv Z.18 - SOETKIN.
- When a collision could still be avoided, both vessels manoeuvred towards each other at approximately the same time. Neither the fv Z.18 – SOETKIN nor the mv CALYPSO.GR made their intentions to manoeuvre obvious.

10. SAFETY ISSUES

1. On board the mv CALYPSO.GR, the AIS status of the fv Z.18 - SOETKIN was received prior to the navigation lights of the fishing vessel being observed. The observed navigation lights corresponded with the AIS status of the fishing vessel. The green fishing light of the fv Z.18 – SOETKIN was not observed. The slow speed of the fishing vessel was not perceived as being that of a fishing vessel.
2. Mv CALYPSO.GR altered her course 8° to SB. This alteration was not wide enough to avoid a collision, but could give some space to fv Z.18 – SOETKIN allowing her to manoeuvre. The intention of this alteration off course to SB was not clear to fv Z.18 –

SOETKIN and was based on the assumption that fv Z.18 – SOETKIN would alter her course.

3. Three seconds after the fv Z.18 – SOETKIN initiated a manoeuvre hard to SB, the mv CALYPSO.GR turned hard to PS. Both vessels were not aware of the intentions of one another. No manoeuvring or warning signals were given.

11. ACTIONS TAKEN

The company of mv CALYPSO.GR, M/Maritime, implemented following actions:

1. Issued a full investigation report to all the vessels in the company, highlighting failed barriers and actions that could have been performed better from the vessel's side irrespective of the errors and mistakes of the other vessel;
2. Increased the use of VDR as a proactive navigational assessment tool by the shore Marine Department;
3. Reminded, highlighted and on occasion improved the guidance to their crews in the SMS on the calling the Master procedure, CPA limits to adhere, use of lights/sounds to alert the other vessel and other navigational procedures relevant to this incident, for example using manual steering for close quarters manoeuvring;
4. Provided refresher COLREGs training to the watchkeeping officers and added controls to ensure that any new watchkeeping officer entering the fleet receives completed COLREGS training irrespective of their prior experience;
5. Made this incident a standard lessons learned topic in the officers' conferences, especially focussing on the need to take early action in similar situations and to anticipate to other vessels, especially fishing vessels;
6. Made this incident a standard pre-joining briefing item for all their bridge officers, irrespective of rank;
7. A training booklet by the UK PANDI Club on Fishing Operations such as common techniques and gear, speeds and patterns, problems and common behaviour exhibited by fishing crews, etc. was provided to all the vessels in the company to increase awareness within the bridge teams regarding encounters with fishing vessels.

12. RECOMMENDATIONS

The owner of fv Z.18 – SOETKIN, BVBA Rederij Versluys-Couwyzer is recommended to:

2021/001083 – 1 : Organise the watchkeeping duties on board in such a way that the AIS status of the vessel and the navigation lights correspond to the navigational status of the vessel.

Federal Bureau for the Investigation of Maritime Accidents

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