



INSPECTION & INVESTIGATION DIVISION

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INDEPENDENT INVESTIGATION REPORT INTO THE VERY SERIOUS MARINE CASUALTY

OF

MV “CLAVIGO”

Grounding leading to Total Loss

off Tuzla Port, Turkey

ON 27.02.2020

Flag: Antigua and Barbuda W.I.

IMO No.: 9014688 / Official No.: 2330 / Call sign: V2NQ

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OBJECTIVE

Maritime Safety Committee MSC.255(84)

CODE OF THE INTERNATIONAL STANDARDS AND RECOMMENDED PRACTICES FOR A SAFETY INVESTIGATION INTO A MARINE CASUALTY OR MARINE INCIDENT

This code recognizes that under IMO conventions each flag State has a duty to conduct an investigation into any casualty occurring to any of its ships when it judges that such an investigation may assist in determining what changes in the present regulations may be desirable or if such casualty has produced a major deleterious effect upon the environment (SOLAS, chapter I, part C, regulation 21).

The Government of Antigua and Barbuda W.I. is signatory to the major international shipping conventions. The Antigua and Barbuda Department of Marine Services and Merchant shipping (ADOMS) constitutes the flag State Administration together with the Inspection and Investigation Division (ADOMS IID), which is the marine safety investigation Authority, with the chief casualty investigator (CCI).

DISCLAIMER

This report is not written with liability in mind and should not be used in court for the purpose of litigation. It endeavours to identify and analyse the relevant safety issues pertaining to the specific accident, and to make recommendations aimed for preventing reoccurrence of similar accidents in the future.

At all times the ADOMS Chief Casualty Investigator strives to balance the use of material that could imply adverse comments with the need to properly explain what happened, and why, in a fair and unbiased manner.

PART A – THE OCCURRENCE

1. Executive summary

MV CLAVIGO, a general cargo vessel of 2446 GT in worldwide trade, grounded on a breakwater of the Turkish port of Tuzla after experiencing heavy weather at anchorage.

The MV CLAVIGO had undergone a change of ownership and maintenance works in the port of Tuzla, also having spent time in the local shipyard, when she left port to take up an anchorage position just outside the port limits. MV CLAVIGO was ordered to a specific anchorage position by the local traffic control centre between other cargo vessels also at anchor.

The weather forecast for the area indicated an increase in wind and sea state, which then occurred as predicted during the early evening hours about 20 minutes after the vessel was anchored by its Master as instructed by the traffic centre. Just before the deterioration of the weather conditions, the vessel's Chief Officer (CO) took over the anchor watch. About 10 minutes later the CO entered wind force 7 to 8 Beaufort (Bft) from a south-westerly direction into the logbook with an in consequence increasing sea state.

About 20 minutes later at 17:50 UTC the CO noticed that the vessel was changing position to the west and informed the Master and Chief Engineer (CE) that the vessel was dragging anchor and drifting towards shore.

The Master proceeded to the bridge immediately and took over the watch from the CO. At 17:52 the CE reported engine controls switched to bridge control and Master, having the controls, set the telegraph to full ahead against the wind direction and rudder to hard starboard in order to make the already ordered heaving of the anchor possible. The anchor could nevertheless only be retrieved extremely slowly, hindered by the weather conditions and force exerted on the anchor chain and winch in consequence.

During this process the Master suffered a serious panic attack, falling unconscious and thus prompting the 2nd Officer (2O) at the helm to call back the CO who immediately returned to the bridge. Upon his arrival the CO

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instructed the 2O to assist the Master to his cabin after taking back the watch and continuing the efforts to stop the vessel's drift and the heaving of the anchor.

All efforts to stop the vessel from drifting towards the coast and in the meantime other drifting vessel, MV DEDE (IMO 7827354), were in vain. The result being, after colliding with MV DEDE and entanglement with their anchor chain, the grounding of both vessels on a southern breakwater of the port of Tuzla. MV CLAVIGO and MV DEDE were later declared a total loss and scrapped in Turkish yards.

2. The aftermath

All crew were safely brought ashore by local rescue services with no serious injury or loss of life being reported.

The MV CLAVIGO suffered damage to its hull resulting in a 10 cm puncture to a bunker tank that could be superficially repaired the next day preventing further spill and consequent pollution. The MV CLAVIGO was later declared a total loss and towed to a ship breaking yard where she was scrapped. The MV DEDE remained in position for a longer period of time, to be sold by the harbour master's office and eventually scrapped at Tuzla facilities.

2.1 Fatalities and injuries

No fatalities or injuries reported. It could later be assessed that the Master had suffered a sinus tachycardia, possibly in response to the stress of the pre casualty situation.

2.2 Impact on the surrounding environment

Due to the fact that the MV CLAVIGO only had an overall quantity of 25 t of diesel in its bunker tanks, the quantity of spilled fuel was assessed at about 300 litres maximum. No oil slick was reported and further spillage was contained by oil barriers directly brought out and repairs to the punctured



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tank on the next day. No direct impact to the surrounding environment or wildlife was reported.

2.3 Extent of the damage

The vessel experienced damage to its propeller and rudder through the entanglement with the anchor chain of MV DEDE and consequent collision. Major damages including a punctured bunker tank were sustained by the contact with the rocks of the breakwater minutes later.

In consequence MV CLAVIGO was declared a total loss and scrapped.

PART B – GENERAL

1. Regulatory requirements

Other than the SOLAS Part C, Regulation 21 regulatory requirement and the Casualty Investigation Code Part II Chapter 6 Rule 6.1 to investigate into every very serious marine casualty (IMO resolution MSC.255(84)) the Antigua and Barbuda W.I. Merchant Shipping Act 2006 (as amended), Part X Chapter 252 demands an investigation where any of the following casualties occur: (b) a loss of life or serious injury to any person, caused by fire on board, or by any accident to a ship or ship's boat, or by any accident occurring on board a ship or ship's boat; or any damage caused by a ship. Furthermore, the Antigua and Barbuda flag State Administration is guided by Chapter 17 of the Casualty Investigation Code where the objective is defined to investigate into an even not very serious marine casualty (e.g. near-miss incidents) if it is considered likely that the investigation will provide information that can be used to prevent marine casualties and incidents in the future as lesson to learn.

2. Assessment of the occurrence

The casualty is assessed in regard to finding possible lessons to learn and never to apportion blame. In the case of MV CLAVIGO a boarding of the vessel was deemed too dangerous and unsafe, especially in regard to vessel access while lying on the breakwater, still under influence of the sea.

The assessment of the casualty showed the important part played by the weather conditions fast deterioration and prior decision to nevertheless lay the ship at anchor just outside the port where the vessel had just left the ship yard.

3. Instructions

Basis for the investigation into this very serious marine casualty are stipulated in the Antigua & Barbuda Merchant Shipping Act 2006 (as amended).



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Nils Beyersdorff, vested with the powers as per the Antigua and Barbuda Shipping Act 2006 (as amended) Part II 6.2, is the Chief Casualty Investigator (CCI) of the flag State marine safety investigation Authority. In this commission he initiated a full and separate investigation into this very serious marine casualty. Relevant notifications as per Chapters 5 and 20 of the Casualty Code have been distributed accordingly.

4. Cooperation with the Coastal State of Türkiye

The cooperation on scene and during the further process was positive and assistance was received where required. We thank the Transport Safety Investigation Center (UEIM) for their cooperation throughout.

PART C – FACTUAL INFORMATION

1. The M.V. “CLAVIGO”



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1.1 Ship particulars

Name of Vessel	MV CLAVIGO
Company (ISM Code 1.2)	Epsilon Denizcilik Ticaret Ltd.
Flag State	Antigua & Barbuda
Port of Registry	St. John's
IMO Number	9014688
Type of Vessel	General Cargo Vessel
Classification Society	DNV GL
Year built	1992
Ship Yard	Slovenske Lodenice Shipyard S.A. Slovenia
Loa (Length over all)	87.82 m
Boa (Breadth over all)	12.80 m
Deadweight	3735
Summer Draft	5,50 m
Gross Tonnage	2446
Net Tonnage	1369
Main Engine	Klöckner Humboldt Deutz AG
Engine Power /Speed	600 KW
Crew as per MSM Cert.	6
Crew Actual	9
Document of Compliance (Date of Issue)	17.04.2019
Trading Area	International
Last PSC Inspection	20.08.2019 (under prior management)
Any deficiencies noted?	2 (magnetic compass, medical equipment)
Any detentions noted?	In 2013 under prior management

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1.2 Crew particulars

MV CLAVIGO was fully manned in regard to the requirements put in place by the issued Minimum Safe Manning Document. By decision of the managing company a 2nd Officer deck, an Engine Room Rating and cook were employed, although not required by the safe manning. All officers and ratings were new to the vessel having signed on the 12th of February 2020, as the company had only shortly taken over management. The Master had worked for the company since 12 months and can be described as familiar with the procedures implemented. The further crew compliment were new to the company as per information gathered and can thus be said to still have been in a phase of familiarisation, especially considering that no time had been spent at sea yet.

1.3 The voyage pattern

MV CLAVIGO had not commenced trading under the new management at the time of the accident.

1.4 The cargo

MV CLAVIGO was not carrying cargo at the time of the accident.

2. The environmental condition

The weather conditions after the MV CLAVIGO had reached her destined anchorage position deteriorated quickly. Having taken position outside the port of Tuzla with wind forces between 4 and 5 bft from a SSW direction, only 20 minutes later the strength increased to 7 to 8 bft from SW with an in parallel intensifying sea state building up with wave heights between 2 – 3 meters (m). According to the vessel's log book it was reported to have been raining with air temperature at 8°C and low tide at the time of the occurrence. The visibility noted was 2 – 3 nautical miles (nm) with overcast skies.

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PART D – NARRATIVE

The MV CLAVIGO, a general cargo vessel with a gross tonnage of 2446 GT engaged in worldwide trade, grounded on a breakwater off the Turkish port of Tuzla.

Prior to this incident, the MV CLAVIGO had undergone a change of ownership and maintenance works were conducted in the port of Tuzla, including time spent at the local shipyard, before leaving port to assume an anchorage position just outside the port limits. The vessel had been directed to a specific anchorage position by the local traffic control centre, where it joined other cargo vessels already at anchor.

As predicted by the weather forecast for the area, an increase in wind and sea state occurred during the early evening hours, approximately 20 minutes after the vessel was anchored by its Master as instructed by the traffic centre.

The Master ordered to let out 6 to 7 cables of chain in a depth of about 48 m according to the echo sounder. By confirmation of a crew member on the forecastle the anchor chain settled as intended and the vessel was held in position. As per the information gathered during the investigation no voyage plan, neither risk assessment nor safety induction were completed or carried out prior to the port departure.

Just prior to the onset of the deteriorating weather conditions, the vessel's Chief Officer (CO) had taken over the anchor watch. Approximately 10 minutes later, the CO recorded a wind force of 7 to 8 Beaufort (Bft), approximately 20 m/s, in the logbook, accompanied by an increasing sea state of 6-7.

About 20 minutes after this, at 17:50 UTC, the CO noticed that the vessel had begun changing position to the south-west (SW) and immediately informed the Master and Chief Engineer (CE) that the vessel was dragging anchor and drifting towards the shore. The Master promptly proceeded to the bridge and took over the watch from the CO. At 17:52, the CE reported that the engine controls had been switched to bridge control, and the Master, now at the controls, set the telegraph to full ahead against the wind direction, and the rudder to hard starboard in order to facilitate the retrieval of the already ordered heaving of the anchor. However, due to the adverse weather



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conditions and the force exerted on the anchor chain and winch, the anchor could only be retrieved at a very slow pace.

During this critical process, the Master suffered a serious panic attack and fell unconscious, prompting the vessel's Second Officer (2O) at the helm to urgently call back the CO to the bridge. The CO promptly returned to the bridge taking back the watch and instructing the 2O to assist the Master to his cabin.

The CO continued the efforts to stop the vessel's drift and retrieve the anchor.

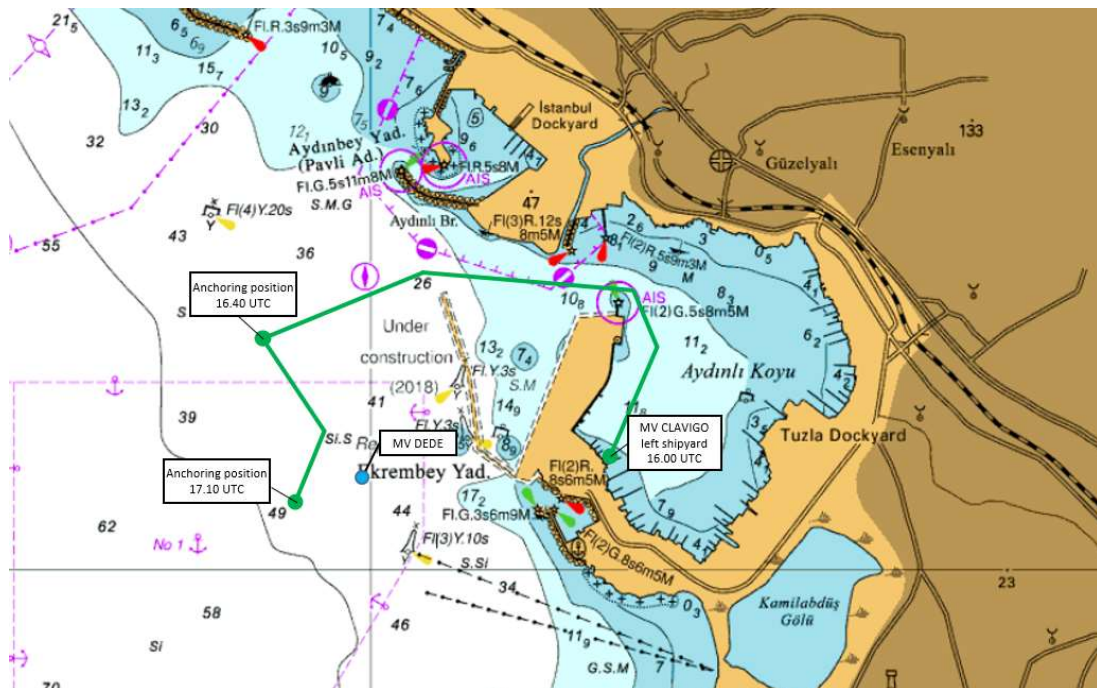
MV CLAVIGO continued to drag anchor and despite all efforts to prevent the vessel from drifting towards the coast and colliding with other drifting vessels, such as the MV DEDE (IMO 7827354), all attempts proved unsuccessful, culminating in the unfortunate grounding of both vessels on a southern breakwater in the port of Tuzla. The MV CLAVIGO and MV DEDE were later declared total losses and scrapped in Turkish yards.

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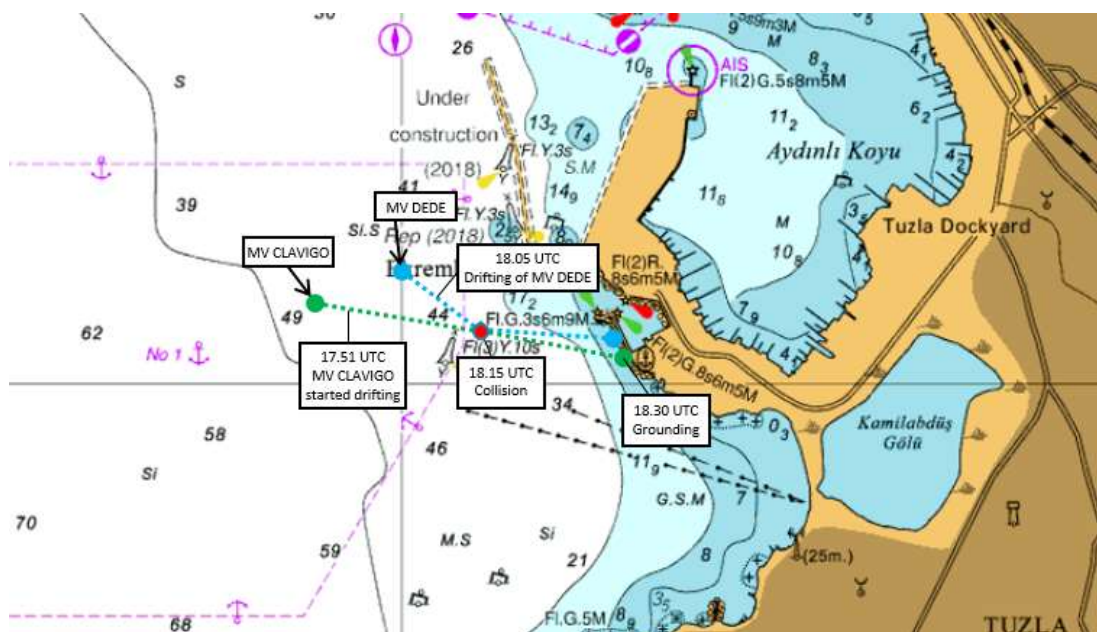
Timeline of events

Time	Event
16:00	Left shipyard to anchor vessel at Tuzla anchorage, right off the shipyard location
16:40	Dropped anchor
16:42	Traffic control ordered change of anchor position via VHF
17:10	Arrived at new anchorage position, dropped anchor, 6.5 cables, 49 m depth
17:20	Hand over anchor watch to CO
17:30	Wind increased to 7 to 8 bft, sea state 6 to 7
17:50	CO noticed vessel was dragging anchor, informed Master and CE
17:51	Master on bridge, vessel was drifting (anchor not holding) - Master reported 40 kts wind, 8-9 Bft
17:52	Engine ready, control on bridge
17:53	Ordered to heave up anchor, engine full ahead against wind, rudder hard starboard, very slow progress due to weather conditions
17:56	Panic attack of Master
17:58	2O (Second Officer) called CO
18:00	CO on bridge, took over
18:02	Sent 2O to bring Master to his cabin
18:05	Traffic control informed of situation, CO became aware that MV DEDE was also drifting towards the course of MV CLAVIGO, called MV DEDE via VHF but no response
18:10	Tug requested at traffic control
18:12	Traffic control responded that tug could not depart to assist due to heavy weather
18:15	First contact with bow of MV DEDE, hatch cover and hull damaged, port side 20m in front of accommodation
18:16	Heaving up anchor continued, efforts to detach from MV DEDE failed, propeller and rudder caught in MV DEDE anchor chain, engine stopped, Chief Engineer (C/E) checked tank levels, reported no changes
18:18	Vessels drifting towards breakwater together
18:20	Traffic Control informed tug was underway from Haydarpasa Terminal, ETA 1h
18:30	MV DEDE ran aground on breakwater, MV CLAVIGO separated, engine full ahead, rudder hard starboard, no use, too late, MV CLAVIGO ran aground, left parallel to breakwater (port side) at Tuzla port
18:50	Master returned to bridge, assumed control, communication with company, commenced rescue coordination
21:05	Arrival of rescue team
21:30	Crew safely ashore

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MV CLAVIGO's route to anchor position



MV CLAVIGO's and MV DEDE's path of drift

PART E – ANALYSIS AND COMMENTS

1. The aim

The purpose of this investigation is to determine the circumstances of the accident and safety factors leading to the grounding and total loss of MV CLAVIGO. Further it is the intention to be able to make recommendations in order to prevent similar accidents in the future.

2. Causal factor

The Master of MV CLAVIGO moored the vessel in position as instructed by the local traffic control station. A position chosen beforehand was deemed unsuitable by traffic control and thus the vessel was repositioned as instructed.

Under the local Turkish by-law, Power and Responsibilities of the Vessel Traffic Services Authority, Article 6, ships at anchor are warned in relation to meteorological conditions by the Vessel Traffic Services Centre with general announcements over related sector channels, pilotage service channels and VHF Channel 16. It can therefore be assumed that the bridge team on MV CLAVIGO were, or should have been, aware of imminently changing weather and sea state conditions.

The investigation showed that no preparations were made to mitigate risks to be expected by deteriorating weather conditions while at anchor. Even though the crew and Master of MV CLAVIGO, were not familiar with the vessel and its characteristics, no prior training or safety meetings were conducted.

Anchoring operations are part of a voyage plan, which should be completed in every instance, no matter how short an intended voyage is. In order to avoid operational failure or anchoring accidents an effective anchoring plan is part of the safe operation of a vessel. An effectively compiled anchoring plan should be complemented by a detailed risk assessment in order to also assist in making the right decisions when emergency situation develops.

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In the case of MV CLAVIGO this may have included the risk of dragging anchor in expectation of increasing wind forces.

Even though the situation was further made difficult through the sudden issues facing the bridge team by the master losing consciousness, this was not seen as a deciding element leading to the vessel's grounding, as the CO took over swiftly during the anchor retrieval operations, experiencing the same situation as the master of continued drift in combination with a very slow retrieval of the anchor and chain let go before.

It can therefore be assessed that the winch capability and propulsion limitations were deciding for the situation experienced. The capability per design is limited to hold the vessel under standard conditions, but not in full exposure to rough weather.

Also, as per current industry practice and understanding, the water depth at the chosen anchorage would have warranted more chain to have been let go. The chain length is generally to be set at three times the water depth plus 90m under normal conditions and four times plus 150m in rough weather conditions. MV CLAVIGO had been anchored with 6 to 7 cables of chain in a depth of about 48 m, thus missing about 5 more shackles in the water under given circumstance.

This could have been possibly recognized by a detailed risk assessment also taking into account the not existing experience of the Master and crew with the vessel in relation to its handling and technical characteristics.

A combination of all risk factors may have prompted the bridge team to establish greater safety margins, such as a prolonged stay in port or, in case this would not have been possible, weathering out at sea and not anchoring with expected gale force winds.

PART F – FINDINGS

1. Safety issues

Missing diligence in preparation of intended operations including:

- No passage plan including required risk assessment compiled
- No crew familiarization or training before leaving port with a crew completely new to the vessel
- Insufficient chain length paid out in relation to water depth and weather conditions

2. Lesson to learn

The requirements of good bridge management include the extensive preparation for all intended operations including anchoring. This should reflect in a well compiled passage plan by means of anchoring planning, familiarity with best anchoring practices and an appropriate risk assessment taking into account all factors such as crew familiarity with the vessel and its equipment, anchorage area specifics, weather conditions and required contingency planning for emergency situations.

3. Recommendations

It is recommended that critical tasks such as anchoring a vessel are incorporated in the form of clear procedures in the companies Safety Management System, also taking into account the required training and familiarization to allow for safe operations and sufficient risk mitigation.

In case a crew and its Master are not at all familiar with a vessel, prior training should be made a number one priority before leaving port. This means sufficient time and opportunity must be planned beforehand including strong support from the vessel's company.

Elsfleth, 17 May 2023

Nils Beyersdorff
Chief Casualty Investigator



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PART G – ATTACHMENTS

Addresses and contacts

Marine Safety Investigation Authority
Antigua and Barbuda W.I. Flag State Administration

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GLOSSARY OF ABBREVIATIONS AND ACRONYMS

2O	Second Officer
bft	Beaufort
CCI	Chief Casualty Investigator
CO	Chief Officer
IMO	International Maritime Organization
ISM	International Safety Management
LT	Local time
MSM	Minimum Safe Manning
nm	nautical miles
SOLAS	International Convention for Safety of Life at Sea
VHF	Very high frequency