

# SIMPLIFIED REPORT FOR MARINE INCIDENT BY THE M/V XIN BEIJING

Breakaway from quay in the Port of Koper  
26. 07. 2023





REPUBLIKA SLOVENIJA  
MINISTRSTVO ZA INFRASTRUKTURO

SLUŽBA ZA PREISKOVANJE LETALSKIH,  
POMORSKIH IN ŽELEZNIŠKIH NESREČ IN  
INCIDENTOV

Tržaška cesta 19, 1000 Ljubljana

REPUBLIC OF SLOVENIA  
MINISTRY OF INFRASTRUCTURE

AIR, MARITIME AND RAILWAY  
ACCIDENT AND INCIDENT  
INVESTIGATION UNIT

Tržaška cesta 19, 1000 Ljubljana

T: +386 (0)1 478 80 00

E: [mzi.maiis@gov.si](mailto:mzi.maiis@gov.si)

<https://www.gov.si/>

## SIMPLIFIED REPORT FOR MARINE INCIDENT BY THE M/V XIN BEIJING

26. 07. 2023

Breakaway from quay in the Port of Koper  
26. 07. 2023

Izola, 31. 12. 2023

Uploaded to GISIS  
03.01.2024

Extract from the Maritime Code of the Republic of Slovenia (Official Journal of the Republic of Slovenia, No. 62/16 - Official Consolidated Text, 41/17, 21/18 - ZNOrg, 31/18 - ZPVZRZECEP, 18/21, 21/21 - Amended and 76/23)

## Chapter XI - INVESTIGATION OF MARITIME ACCIDENTS

### Article 200a

**The purpose of investigation of maritime accidents under this Act is not to establish the responsibility or fault, but to determine the causes of accidents and to prevent similar accidents.**

### Article 200e

**Data obtained by an investigator during the investigation of a maritime accident shall be confidential and not publicly available.** These data may be publicly available only if there is prevailing public interest arising from the investigator's final report on a maritime accident.

### Article 200g

**The investigation of a maritime accident shall be independent from investigations of criminal acts or other parallel investigations the object of which is the identification of responsibility and determination of fault.** These investigations shall not unduly inhibit, interrupt, or defer the investigation of maritime accidents.

Information:

The Marine Accident and Incident Investigation Reports are published on the website of the Ministry of Infrastructure at the following address:

<https://www.gov.si/drzavni-organi/ministrstva/ministrstvo-za-infrastrukturo/o-ministrstvu/sluzbe-za-preiskovanje-letalskih-pomorskih-in-zelezniskih-nesrec-in-incidentov/preiskovanje-pomorskih-nesrec-in-incidentov/>

MINISTRY OF INFRASTRUCTURE  
AVIATION, MARITIME AND RAILWAY ACCIDENTS  
AND INCIDENTS INVESTIGATION UNIT  
Tržaška cesta 19  
1000 Ljubljana

☎ +386 (0)1 478 80 00  
✉ [mzi.maiis@gov.si](mailto:mzi.maiis@gov.si)

All times mentioned in this report are local (UTC+2h) unless otherwise stated.

The provisions of the international conventions referred to in this report must be interpreted and understood in the light of the full text of those conventions, including any annexes.

This report is published in identical Slovenian and English versions. In case of any disputes or disagreements, the Slovenian version of this report shall apply.

# TABLE OF CONTENTS

- INDEX OF FIGURES..... v
- ANNEXES.....v
- MEANING OF TERMS.....vi
- SUMMARY ..... 1
- CHAPTER 1 - FACTUAL INFORMATION ..... 2
  - 1.1. SHIP'S PARTICULARS..... 2
  - 1.2. DESCRIPTION OF THE EVENT ..... 4
  - 1.3. IMPLICATIONS ..... 7
    - 1.3.1. Damage on board Xin Beijing ..... 7
  - 1.4. THE PORT OF KOPER AND THE ADEQUACY OF THE BERTH..... 7
    - 1.4.1. Bollards and mooring buoys overview ..... 7
    - 1.4.2. Suitability of fenders ..... 8
    - 1.4.3. Hydrographic survey of the approach channel and Basin I..... 9
  - 1.5. ENVIRONMENTAL CONDITIONS ..... 10
    - 1.5.1. General meteorological conditions in the Koper harbor area - overview ..... 10
    - 1.5.2. Weather conditions before and during the Xin Beijing incident..... 11
  - 1.6. PREVIOUS AND SUBSEQUENT ACCIDENTS AND INCIDENTS ..... 13
    - 1.10.1. Pre-existing accidents..... 13
    - 1.10.2. Next incidents..... 14
- CHAPTER 2 – ANALYSIS OF THE FACTS ..... 15
- CHAPTER 3 – CONCLUSIONS..... 16
- CHAPTER 4 – SAFETY RECOMMENDATIONS ..... 17
- ANNEXES..... 18

# INDEX OF FIGURES

Figure 1: M/V XIN BEIJING, (Vir: Vessel Finder.com) ..... 1

Figure 2: 16:49:32; Xin Beijing - aft springs breaking and stern lines slackening (Source: SMA)..... 4

Figure 3: Situation at 16:49:51; breaking of the forward spring on the Xin Beijing (Source: VNC) ..... 4

Figure 4: : Situation at 16:55:59; the Xin Beijing has completely closed Basin I (Source: CNP)..... 5

Figure 5: Xin Beijing close to the BBC Livorno (Source: VNC) ..... 5

Figure 6: 16:58:52, Xin Beijing dropped starboard anchor “Source VNC) ..... 5

Figure 7: M/V Xin Beijing re-berthed at Berth 7D (Source: VNC LK) ..... 6

Figure 8: Damaged ropes, two types of ropes present ..... 7

Figure 9: Overview of moorings and mooring facilities, Basin I, moorings 7D and 7C ..... 8

Figure 10: Illustration of the mooring of stern lines to mooring devices ..... 8

Figure 11: Extract of map ENC SI5KP001, Pool 1 area with channel (-15 m) and depths plotted. .... 9

Figure 12: Extract Official chart (paper) Port Koper 04 with channel plotted (-15 m)..... 10

Figure 13: Depths, 14.9 m and over for the inlet channel and 14.8 m and over for the basin..... 10

Figure 14: Radar image on 26.07.2023((source: ARSO) ..... 12

Figure 15: Timeline of the average wind speed and its strongest gusts (source: ARSO) ..... 12

Figure 16: Stern winch and renewed brake linings (Sep. 2023)..... 16

Figure 17: Mooring sketch    Figure 18: Use of floating devices (buoys) ..... 16

# ANNEXES

- Master’s Report to the Company
- Wind force and direction overview

## MEANING OF TERMS

<b>Concept / Abbr</b>	<b>Description</b>
AIS	- Automatic Identification System
ARSO	- Slovenian Environment Agency
BA	- British Admiralty
CNP	- Traffic Control Centre (SMA)
COG	- Course Over Ground
GT	- Gross tonnage
kt, kts	- Knot, knots
kW	- Kilowatt / Kilowatt
LOA	- Length Over All
LPP	- Length Between Perpendiculars
EN	- Local time
m	- Meter
M	- Nautical mile
MBL	- Minimum Breaking Load
MMSI	- Maritime mobile service identity
NAVTEX	- Narrow-band direct-printing telegraph equipment for receiving meteorological or navigational information
OOW	- Officer Of Watch
ROT	- Rate of Turn
SMA	- Slovenian Maritime Administration
SOG	- Speed Over Ground
SOLAS	- International Convention for the Safety of Life at Sea
T	- Tone (metric tons)
TEU	- 20-foot equivalent unit
TRT	- Port of Koper Bulk cargo terminal
UKC	- Under Keel Clearance
UTC	- Universal Time Co-ordinated
VHF	- Very High Frequency (Radio)
VNT	- Port of Koper Multi-purpose terminal
VTS	- Vessel Traffic Services



Figure 1: M/V XIN BEIJING, (Vir: Vessel Finder.com)

## SUMMARY

On 21.07.2023 the vessel XIN BEIJING arrived from Trieste, Italy on the Port of Koper anchorage and anchored at 02:30 hours LT.

On 23.07.2023 pilot boarded the vessel at 22:05 and she was berthed at 23:05 in Basin 1, Berth 7D of the Container Terminal.

The ship was engaged in commercial container handling operations.

On 26/07/2023, at 16:00, a general warning was issued by the CNP (SMA) regarding severe weather, possibility, and the risk of a "Tramontane" wind. At 16:43, the XIN BEIJING requested the assistance of two tugs. At 16:48 the tug ZEUS was deployed alongside the ship. Meanwhile, the lines at the stern of the ship have already started to slacken and parting. At 16:50 the tug NEPTUN arrived alongside the ship. The stern of the ship was halfway down Basin I by that time.

At 16:58 the ship dropped her starboard anchor. All stern lines are parted, bow lines except springs are still secured to the shore. The ship was then positioned at an angle of about 045° to the shore, and the stern was only about 10 m from the stern of the BBC LIVORNO moored on the south side of the basin at Berth 2.

Additionally, another tug, MERCUR, came alongside the ship. With the intervention of the three tugs and the operation of the ship's engine and side moorings, the ship was re-berthed and secured at 18:25 at berth 7D.

The findings indicate, inter alia, a failure to consider the characteristics of local weather phenomena, to monitor weather warnings closely, to use mooring equipment correctly in relation to its number and to maintain mooring equipment in accordance with good seamanship. The winch brakes failed; it is not clear at which load. Some of the ropes are worn, according to the recordings, and it is apparent that not all ropes are the same.

Commercial transshipment operations were stopped on time, the horizontal arms of the cranes were raised, and the cranes were moored. The response of all the services and authorities (CNP Duty Officers, AdriaTow tugs, Operations Department of Port of Koper, and Linesmen) involved in the response to the Xin Beijing marine incident was coordinated and efficient.

The safety recommendations are made as a result of the findings of the investigation and are aimed at eliminating the factors that contributed to the occurrence or progression of the accident. In no case do they create a presumption of liability or fault.



# CHAPTER 1 - FACTUAL INFORMATION

## 1.1. SHIP'S PARTICULARS

<b>SHIP'S PARTICULARS</b>	
Name of ship	XIN BEIJING
Type of ship	CONTAINER SHIP
Owner	Yangshan D Shipping Co.Ltd.,
Operator	Shanghai Ocean Shipping Co.Ltd.
Year of construction	2007
Classification Society	CCS - China Classification Society
Flag	Hong Kong
Port of entry	Hong Kong
IMO number	9314246
MMSI number	477768100
Call sign	VRCS5
Length	336,69
Width	45,60
Maximum draft	15,03
Maximum height	62,00
Gross tonnage (GT)	108.069
Net tonnage (NT)	57.365
Displacement (D)	146.851,50
Deadweight (DWT)	111.571,80
Freeboard	5.238 mm
Engine	MAN B&W 12K98MC-C
Engine power	68.520 kW
Thrusters	BT 3.000 kW
Propellers	1 FPP
<b>VOYAGE INFORMATION</b>	
Previous port	Trieste
Port of destination	Koper
Voyage type	International
Cargo	Containers
No. of Crew	28
<b>CASUALTY OR INCIDENT INFORMATION</b>	
Date and Time	26 07. 2023 at 16:43 LT
Type of accident or incident	Marine Incident
Location of the event	Port of Koper
Part of the ship	-/-
Human injuries / casualties	None

Ship's operations	Containers transshipment
Travel segment	In port - alongside
Weather and weather effects	Stormy weather
A draft at the time of the accident	10,20 / 10,20

In accordance with the provisions of Article 2(2)(1) of the Regulation on the investigation of marine casualties (Official Journal of the Republic of Slovenia No 67/11), a marine casualty is any occurrence on board or in connection with a ship where:

- a person dies or suffers serious injury in connection with the operation of the ship:
- a person falls from the ship due to the operation of the ship,
- the ship is lost, presumed lost or abandoned,
- **the ship is damaged,**
- **the boat runs aground, unless she runs aground for a short period of time on purpose and is not damaged as a result,**
- the ship is unseaworthy,
- **the ship collides,**
- **property damage caused by the operation of the ship, or**
- the environment is polluted as a result of damage to the ship or the operation of the ship.

## 1.2. DESCRIPTION OF THE EVENT

This part describes a sequential overview of the trajectory of the Xin Beijing before and during the incident, from the moment of the slackening of the stern mooring lines (16:49) at berth 7c of Basin I until she re-berthed at 18:25 on 26 July 2023.

At 16:40:49, MSC Belle requested the Harbor master's Office for tug assistance at Berth 7A due to adverse weather conditions (tramontane intensity 19.0 m/s, gust 23.9 m/s (Figure 2). The tug Mercur commenced assisting MSC Belle at 16:42:56.



Figure 2: 16:49:32; Xin Beijing - aft springs breaking and stern lines slackening (Source: SMA)

At 16:44:35, the Xin Beijing requested tugs assistance. Tug Zeus started to assist by pushing the stern at 16:48:29, but its assistance was not sufficient in such weather conditions. The wind was 27,4 m/s blowing from 0370. The stern breast lines were very tight. At this point the brakes on the drum of the mooring winches must have started to give way. The ship's heading has started to decline and at the same time, longitudinal movement of the BSC Belle at berth 7A was also observed. At 16:49:51 the first forward spring on the Xin Beijing broke (Figure 3).



Figure 3: Situation at 16:49:51; breaking of the forward spring on the Xin Beijing (Source: VNC)

At 16:50, the tug Zeus was joined by the tug Neptune in pushing the Xin Beijing. Both tugs were pushing the stern of the ship with full power, but the ship is still affected by adverse weather conditions. At 16:52, the ship is moving to the passenger terminal at a speed of 1.1 knots in direction of 141.2°, which endangered the safety of the BBC Livorno at the terminal. At 16:51 the master of the Neptune Oceanis

expressed concern for the safety of his vessel. The Xin Beijing's mooring lines, except for the forward springs, are still in place. At 16:55 it was clear that the tugs Zeus and Neptune would not be able to resolve the situation on their own, so the tug Mercur, which had been pushing the MCS Belle in a stable condition up to that point, joined them. The ship also used the rudder and main engine to stop further approach to the BBC Livorno (Figures 4 and 5).

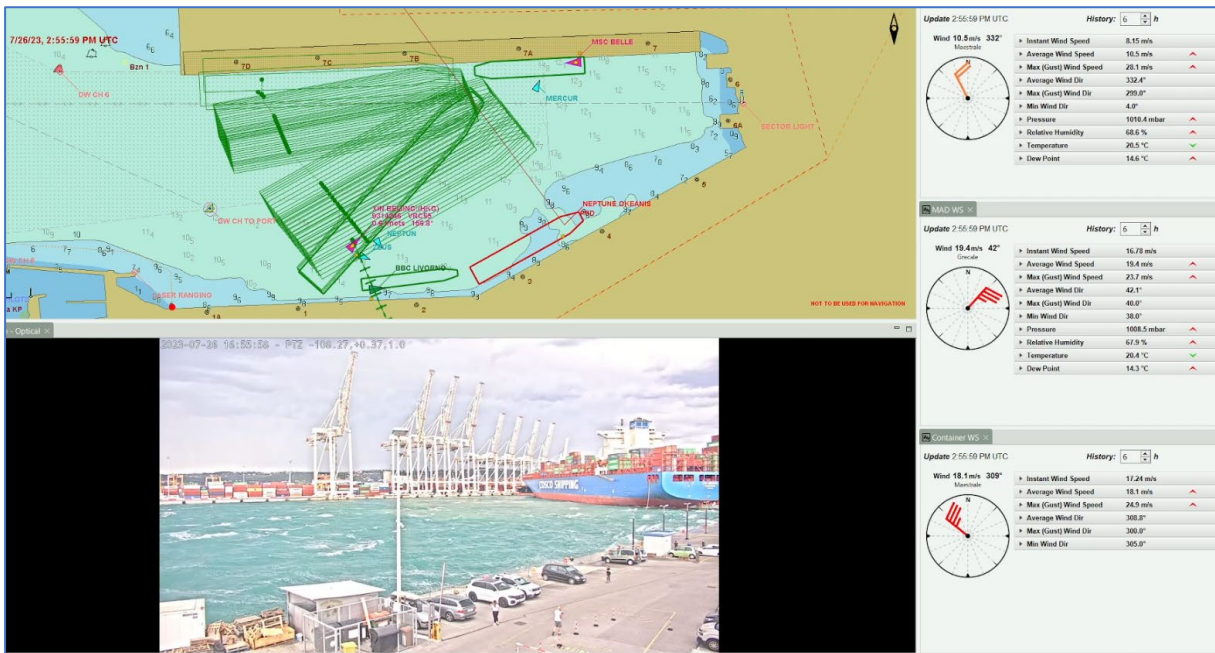


Figure 4: : Situation at 16:55:59; the Xin Beijing has completely closed Basin I (Source: CNP)



Figure 5: Xin Beijing close to the BBC Livorno (Source: VNC)

The Xin Beijing was ordered by the CNP (SMA) at 16:54:22 and again at 16:57:58 to drop starboard anchor. The Xin Beijing only dropped anchor at 16:58:52 (Figure 6). The northerly wind gusts were still reaching 23.9 m/s. The BBC Livorno was no longer endangered.



Figure 6: 16:58:52, Xin Beijing dropped starboard anchor "Source VNC)

At 17:07:00, wind gusts started to decrease slightly to 19 m/s. The Xin Beijing was within 10 m of Berth 7C. The ship was pushed at 0,9 knots in a 320° direction. At 17:17:00 the Xin Beijing was safely positioned alongside (Figure 7), with winds of 9.5 m/s and gusts of 15.5 m/s. At 18:25 she was re-berthed, and the tugs were released.



Figure 7: M/V Xin Beijing re-berthed at Berth 7D (Source: VNC LK)

## 1.3. IMPLICATIONS

### 1.3.1. Damage on board Xin Beijing

- Due to the strong winds, the ship's mooring lines, six in total snapped, of which two forward springs, two aft springs and two stern lines.
- No other damages occurred on the vessel, other vessel(s) or port infrastructure.



Figure 8: Damaged ropes, two types of ropes present

## 1.4. THE PORT OF KOPER AND THE ADEQUACY OF THE BERTH

Despite challenging weather conditions, every port must provide a safe berth for ships. According to EN 1991-1-4, the design wind speed for the area of the freight port of Koper is 30 m/s (for all facilities). Large container ships can also berth safely in Berth 7D due to the facilities installed there, which are also designed to allow safe berthing in wind gusts of up to 30 m/s (58.3 knots).

### 1.4.1. Bollards and mooring buoys overview

The extension of the quay in 2022 also included the installation of new bollards and the addition of stronger bollards on the existing quay. The bollards at berths 7C and 7D have a capacity of 150 tons, the others have a capacity of 100 tons. In addition, special bollard No. 42 has been installed, which has a capacity of 200 tons and is intended for the mooring of stern (in the case of the port side berth), which is potentially the most exposed in the event of winds from Tramontana<sup>1</sup> and Lebičade<sup>2</sup>. The ropes on this bollard act as lateral ropes which improves the lateral stability of the mooring.

Intermediate bollards with a capacity of 150 tons have also been added along the entire shoreline to allow secure berthing also at the bow of the ship in the event of port side mooring (Nos. 14a, 15a, 16a, 17a, 18a, 21a, 22a, and 23a). In the past, even the largest ships were tied up with 5 lines to one 100-tonne mooring, including Maersk's H-class ships in the last four years. They have also been subjected to strong storms (north-easterly direction) and gales on several occasions. The new bollards made the berthing of ships much safer, as the bow ropes are distributed over at least two bollards. The new 7D

---

<sup>1</sup> Tramontana - Tramontana is a short-lived transient wind that blows from the north in the Adriatic. It blows at all times of the year. It can be a strong and dangerous wind. It usually becomes a gale. It can reach speeds of up to abt 108 km/h, but usually blows at 80 km/h.

<sup>2</sup> A lebič, lebičada, garbin (Italian: lebeccio) is a stormy south-westerly (SW) wind in the Adriatic, accompanied by heavy precipitation. In summer it forms as a local thermal storm wind.

quay is also equipped with mooring bollards at the head of the quay, which are also of sufficient capacity (150 tons) to further strengthen the mooring. Two mooring devices (mooring buoys) of 250 tons capacity are anchored in the sea.<sup>3</sup> The use of the mooring devices is illustrated in Figure 10.

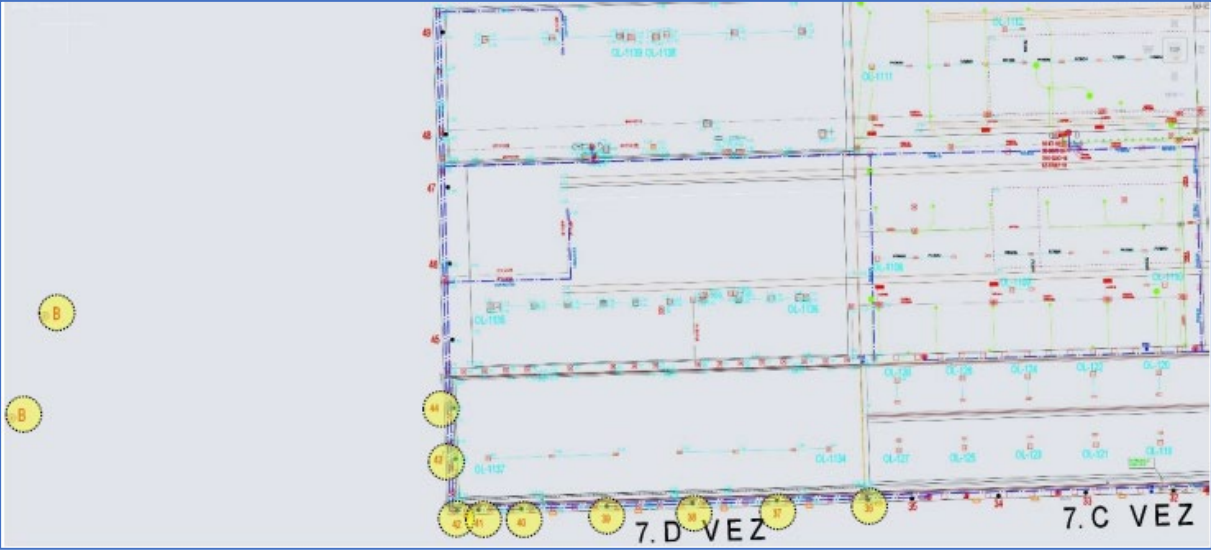


Figure 9: Overview of moorings and mooring facilities, Basin I, moorings 7D and 7C

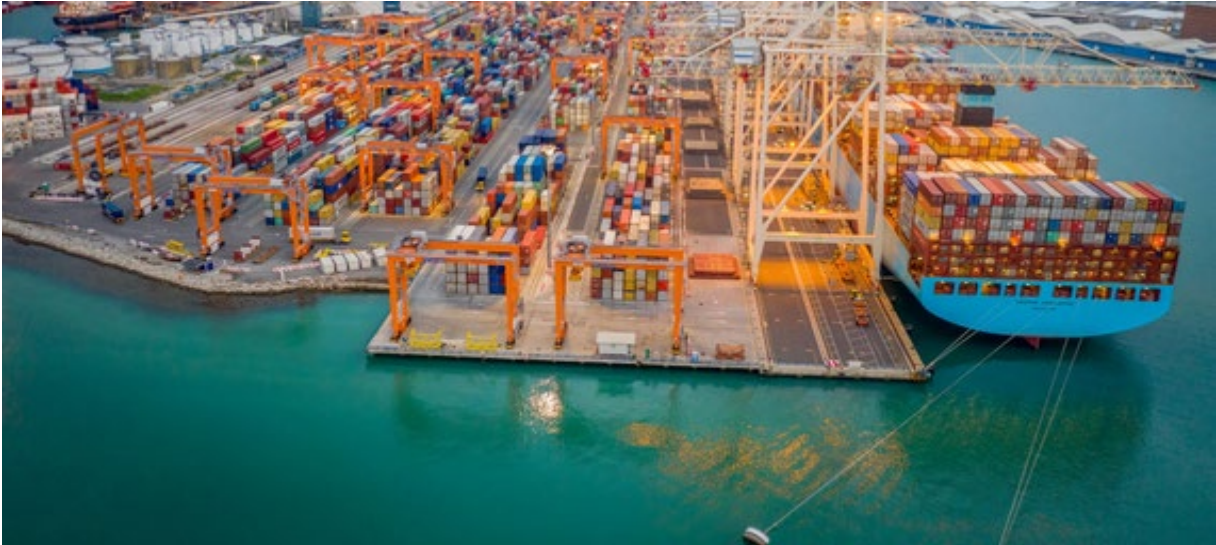


Figure 10: Illustration of the mooring of stern lines to mooring devices

1.4.2. Suitability of fenders

Suitably selected fenders are important to ensure a safe mooring. The suitability of the fenders installed on the container shore depends on the maneuver preparation, the speed of entry, the backing, the slope to the shore and the displacement of the ship.

The fenders are identical along the entire shoreline of the container terminal. They have been dimensioned for ships with a displacement of 169,200 tons, which can approach at speeds of up to 10.2 cm/s. All the fenders are of the conical type, state-of-the-art fenders suitable for container ships. They are 1000 mm (model SPC1000, G2.5) with an added spacer and a 2 m x 2 m backing panel, which

is chained in place. The overall depth is 2000 mm. The characteristics of the fenders are as follows:  $E = 562 \text{ kNm}$ ,  $R = 1072 \text{ kN}^4$ .

The fenders are placed along the entire coastline with a separation of 20 m. In accordance with the recommendations of British Standard BS 6349, Part 4, the distance between the fenders shall be 15% of the length of the smallest ship. This means that the existing arrangement is satisfactory for ships of more than 130 meters in length, which implies that a larger ship has sufficient number of fenders. The fender's capacity and the arrangement of the fenders are also adequate for the safety of the berth in strong winds.

### 1.4.3. Hydrographic survey of the approach channel and Basin I

The Port of Koper regularly carries out depth measurements in the basin, the SMA verifies depths of the approach channel, which is maintained at -15 meters hydrographically. The maintenance of the depths is the responsibility of the Port of Koper. A plot of the latest valid chart ENC S15KP001 is shown in Figure 11, showing the channel and part of the basin deepened to -15m. A new (additional) pilot boarding station is positioned in 2021, which is 2.2 M away from the outer channel buoys as a pilot boarding area for large vessels.

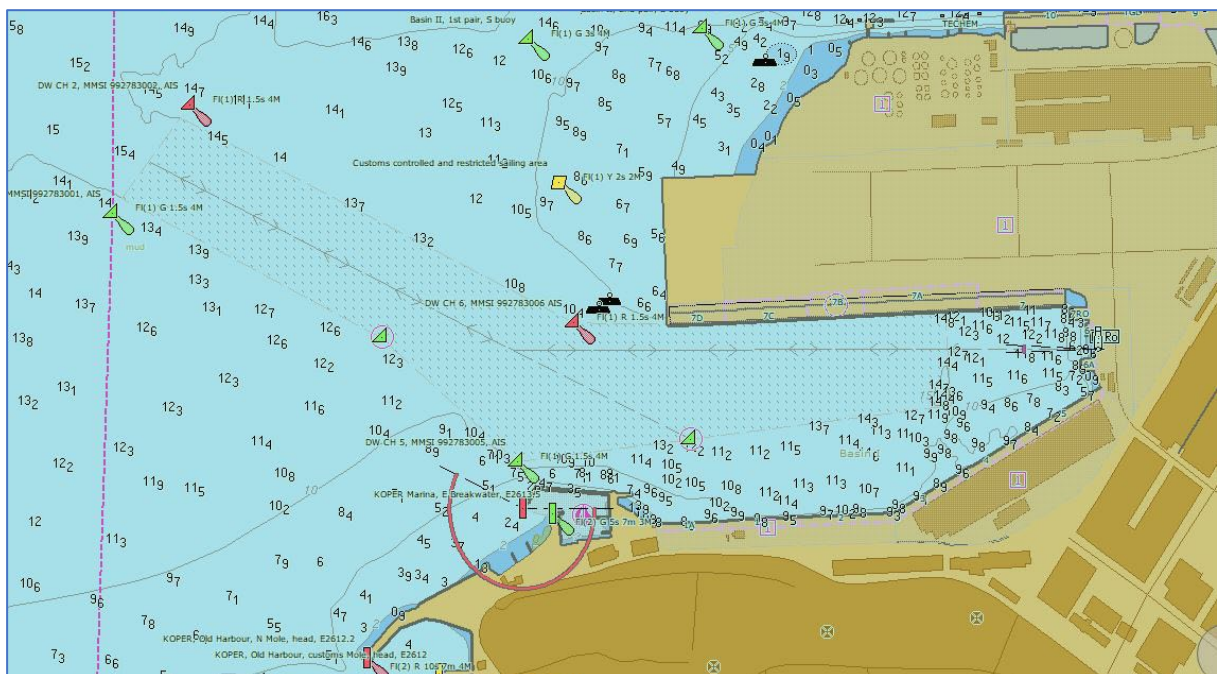


Figure 11: Extract of map ENC S15KP001, Pool 1 area with channel (-15 m) and depths plotted.

Figure 12 is an extract from the printed map. At the entrance itself, a bathymetric line (15 m) can be seen inside the channel, but this does not significantly affect safety as the ship follows the center of the channel.

Figure 13 below gives a more detailed overview of the depths, showing an area with a depth of 15 m and more and an acceptable tolerance for navigation (the bottom is muddy), an area with a depth of 14.8 m and more in the pool area and 14.9 m and more in the inlet channel. The design of the channel and the availability of depths allow safe access to the mooring site, accurate positioning and a good and safe mooring to the available bollards and floating mooring devices.

<sup>4</sup> "E" - Normal energy of attachment absorbed by the fender (kNm), "R" - Reaction force generated by the fender





Figure 12: Extract Official chart (paper) Port Koper 04 with channel plotted (-15 m)

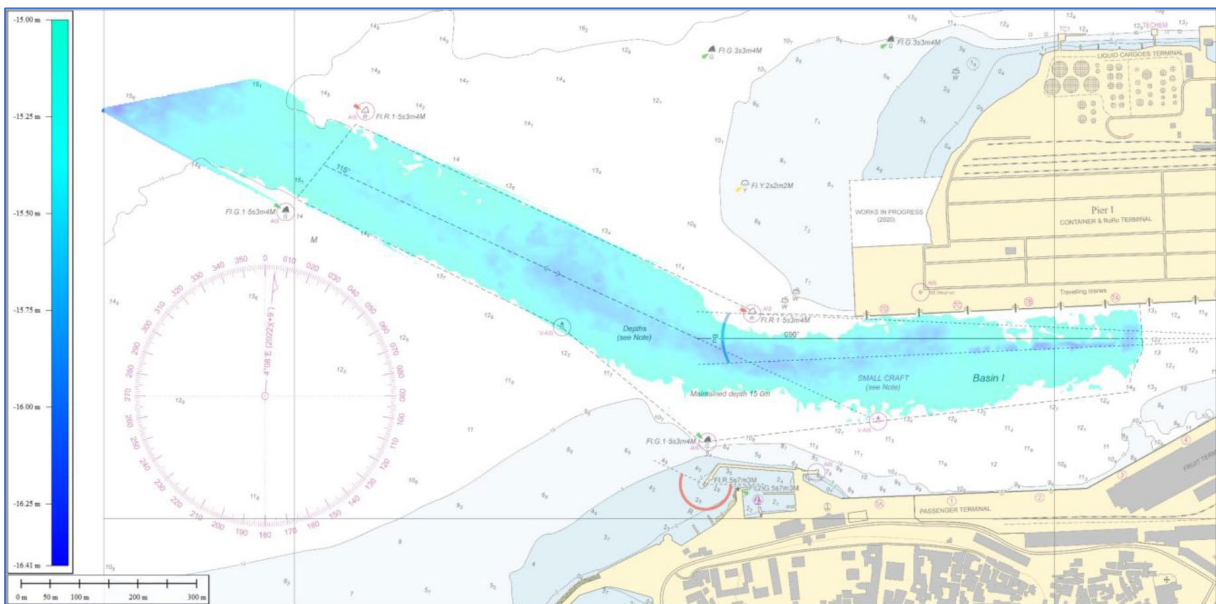


Figure 13: Depths, 14.9 m and over for the inlet channel and 14.8 m and over for the basin

The design of the channel and the availability of depths allow safe access to the mooring site, accurate positioning and a good and safe mooring to the available bollards and floating mooring devices.

## 1.5. ENVIRONMENTAL CONDITIONS

### 1.5.1. General meteorological conditions in the Koper harbor area - overview

A good understanding and knowledge of meteorological and oceanographic conditions is fundamental to ensuring maritime safety. The area of the Gulf of Trieste is exposed to weather conditions that can roughen the sea and endanger the safety of vessels. The most common wind is a north-easterly wind, also known as a Bora. This gusty and gusty wind causes waves to form in irregular shapes, up to 3 m high. The waves in a storm are short, narrow, and steep, breaking in a picturesque manner and producing a spray of water droplets on the surface of the water. The storm pushes the surface water away from the shore and the sea level then drops. On average, more than a third of all winds blow from this direction each year. Storms are particularly frequent from November to March.

In addition to the winds, there are also southeasterlies and southerlies, which blow evenly throughout the year. Waves are more regular in shape, up to 4 m or more high. Moderate southerly winds raise the water level up to 25 cm, and up to 0.5 m in autumn and winter. However, from October to December, when the weather is accompanied by a strong south-easterly wind, the tide tends to push the sea masses towards the Slovenian and northern Italian coasts. This can cause flooding and raise sea levels by more than 85 cm above mean sea level.

On the waterway and in the port itself, wind is the most prominent attribute of navigational risk. On the waterway and in the harbor, the most prominent attribute of navigational risk is wind. Summer storms are particularly dangerous, as they can catch ships just as they are docking.

Admiralty Sailing Directions NP47 - Mediterranean Pilot Vol. 3 (Ed. 17, 2020) under the subheading 'local weather' and chapter 10.129, states: *"Tramontana (10.101) has a strong northerly wind blowing into the harbor. It is most common in winter and strong gusts, usually associated with storms, can cause damage to vessels." Tramontane is specifically mentioned in paragraph 10.101: "Tramontane winds are strong but short-lived NW to NNW winds that are locally present in the Gulf of Koper. It can occur at any time of the year but is most likely to occur in summer or early autumn. It is associated with the passage of cold fronts over the Alps and may be accompanied by storm activity in the direction of a north-westerly storm line heading towards Trieste and the Gulf of Koper. Winds are considered dangerous due to their sudden and frequent occurrence. Typical wind speeds are between 40 and 60 knots. Winds are of a transient nature, usually lasting between 1 and 3 hours in the Gulf of Koper, often quickly becoming gale force."*

Measurements have been carried out at the "Štapiči" site to the right of the entrance to Basin I since 2014, at the container terminal site since 2015, at the VNT terminal site since 2016 and at the site in front of Pier II since 2018. Measurements are carried out with modern high temporal resolution meters, allowing up to 20 Hz at VNT and CT. The anemometer at the container terminal (Basin I) and the anemometer at the VNT (Basin III) are identical 3D anemometers capturing data at 20 Hz.

### 1.5.2. Weather conditions before and during the Xin Beijing incident

A few days before the accident, an unstable weather situation had developed. Between 24 and 26 July, the center of a cyclone with a cold front passed over the North Sea and Scandinavia, passing through central Europe. A valley of high altitude extended south across western Europe to the northern part of Spain, moving slowly eastwards. The axis of this high-level valley crossed Slovenia on the evening of Wednesday 26 July. South-westerly air currents prevailed over the Alps during this period, bringing moist and unstable air. Storm systems formed over the northern part of the Po Plain and occasionally affected the weather in Slovenia. The Xin Beijing was berthed at Berth 7c in Basin I of the Port of Koper on 26 July 2023.

In view of the current weather situation and the forecasts of meteorological models, the National Meteorological Service has issued several warnings of storms and high heat load. In addition, the ship was in range of two NAVTEX stations (Slit and Mondolfo) which also forecast storms. Trieste Radio also broadcast a SECURITE message before the storm. The storm could already be visually observed one hour before the arrival of the storm. The radar reflectivity of the precipitation is shown in Figure13.

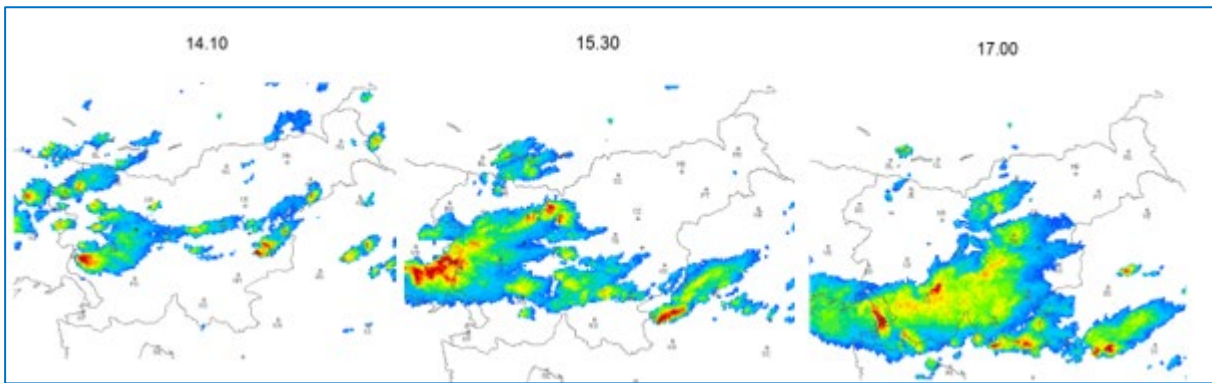


Figure 14: Radar image on 26.07.2023((source: ARSO)

The strongest wind gusts were recorded between 16:20 and 17:20 on 26 July 2023 at the Koper Kapitanija gauging station (24.5 m/s). Figure 14 shows the time course of the average wind speed (green) and its strongest gusts (yellow) from 24 to 26 July at the Koper Kapitanija gauging station. At 16:00, the duty officer at the CNP issued a general warning on VHF channel 08 to all ships in the freight port of Koper about the possibility of severe weather and strong winds ("Tramontane").

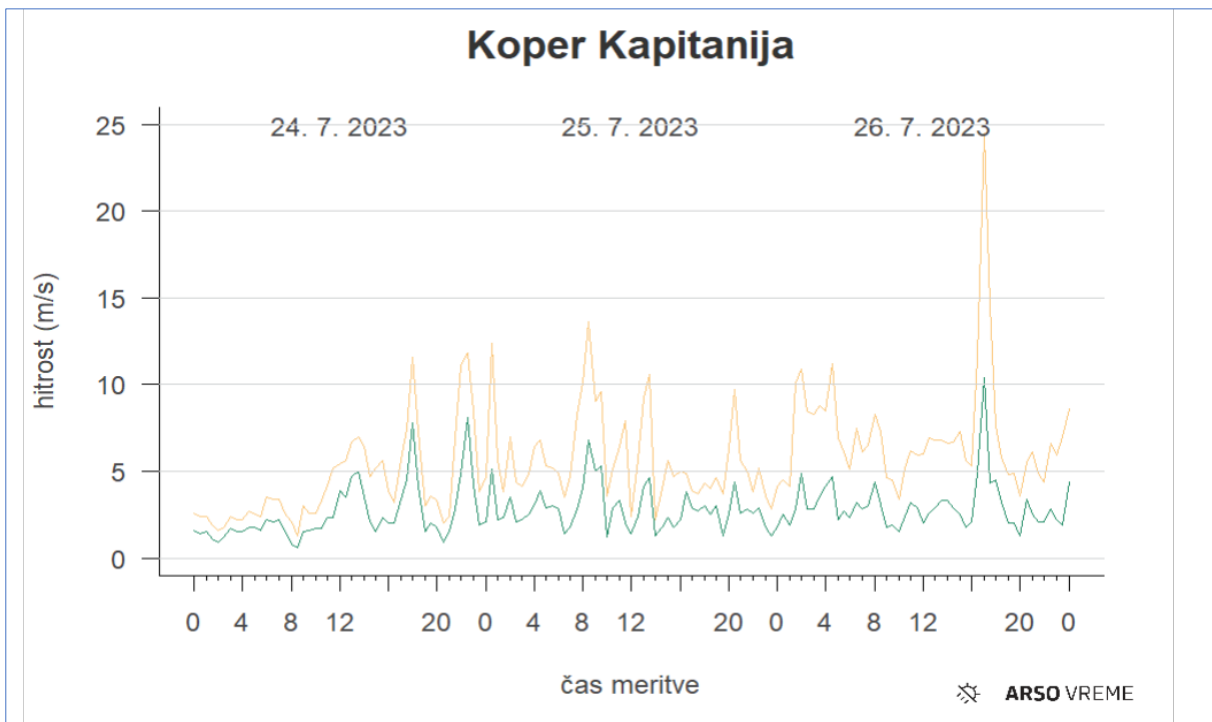


Figure 15: Timeline of the average wind speed and its strongest gusts (source: ARSO)

Annex 2 gives an overview data of wind measured on three different weather stations, Port of Koper, Capr Madona and Capr Debeli Rtič. Winds averaged 7-17 m/s with maximum gusts up to 22.23 m/s from the north (tramontana), visibility in daylight was good. Measured wind speeds on the Beaufort scale ranged from 4 to 7 Beauforts (Bf), while maximum wind gusts were measured up to 9 Bf.

## NAVTEX sporočila

At least three messages were received on 26/07/2023. The stations in range are Split and Mondolfo

<p>2023-07-26 05:40:17(LV) AREA: Q</p> <p>ZCZC QE1d</p> <p>260240 UTC JUL 23</p> <p>SPLIT RADIO</p> <p>WEATHER BULLETIN FOR ADRIATIC ISSUED BY THE MARINE METEOROLOGICAL CENTER SPLIT ON 26/07/2023 AT 0000 UTC</p> <p>WARNING:</p> <p>ON CENTRAL/ AERN ADRIATIC LOC GUSTS OF SW/NW WIND, IN THE MORNING ON N-ERN ADRIATIC NE 35-45 KT, IN VELEBIT STRAIT</p> <p>TO 55 KT.ON CENTRAL/S-ERN ADRIATIC ISOLATED SUDDEN STORMS.</p> <p>FORECAST FOR THE NEXT 24 HOURS VALID UNTIL 27/07/2023 AT 0000 UT_</p> <p>N-ERN ADRIATIC:</p> <p>NE/NW WIND 6-16 KT, TILL THE MORNING INCR ON 10-20 KT, IN VELEBIT STRAI_ TO 28 ((5=, OVERDAY GRADUALLY DECR B53_(3()93_.94,8,_ 9!!'_943 '-EII_FM CSTR_A_TEMP4.</p> <p>VIS BQPAMP KM. VRB C_OUDY J_TH_RAIN/T-SHWRS LOC, AFTERNOON BECOMING CLEARING UP.</p>	<p>261040 UTC JUL 23</p> <p>SPLIT RADIO</p> <p>WEATHER BULLETIN FOR ADRIATIC ISSUED BY THE MARINE METEOROLOGICAL CENTER SPLIT ON 26/07/2023 AT 1000 UTC</p> <p>WARNING:</p> <p>ISOLATED GUSTS OF NE/NW WIND 35-45 KT,TODAY IN VELEBITSKI KANAL UP TO 55 KT .TILL THE END OF THE DAY LOC POSS SUDDEN STORMS,ON S-ERN ADRIATIC AND OVERNIGHT.</p> <p>SYNOPSIS:</p> <p>TROUGH WITH COLD FRONT SHIFTING ACROSS ADRIATIC TO THE EAST, THEN RIDGE OF HIGH SLOWLY INCR FM THE WEST.</p> <p>FORECAST FOR THE NEXT 24 HOURS VALID UNTIL 27/07/2023 AT 1000 UTC</p> <p>N-ERN ADRIATIC:</p> <p>NE/NW WIND 12-22,IN VELEBITSKI KANAL NE UP TO 28 KT,OVERNIGHT DECR TO 6-16, IN VELEBITSKI KANAL UP TO 20 KT.</p> <p>SEA 3,LOC 4,FM THE MIDDLE OF THE NIGHT 2-3.</p> <p>VIS MORE THAN 20 KM.</p> <p>VRB CLOUDY,LOC RAIN OR T-SHWRS,OVERNIGHT CLEARING UP.</p>
---	--

261440 UTC JUL 23

SPLIT RADIO

WEATHER BULLETIN FOR ADRIATIC ISSUED BY THE MARINE METEOROLOGICAL CENTER SPLIT ON 26/07/2023 AT 1000 UTC

WARNING:

ISOLATED GUSTS OF NE/NW WIND 35-45 KT,TODAY IN VELEBITSKI KANAL UP TO 55 KT .TILL THE END OF THE DAY LOC POSS SUDDEN STORMS,ON S-ERN ADRIATIC AND OVERNIGHT.

SYNOPSIS:

TROUGH WITH COLD FRONT SHIFTING ACROSS ADRIATIC TO THE EAST, THEN RIDGE OF HIGH SLOWLY INCR FM THE WEST.

FORECAST FOR THE NEXT 24 HOURS VALID UNTIL 27/07/2023 AT 1000 UTC

## 1.6. PREVIOUS AND SUBSEQUENT ACCIDENTS AND INCIDENTS

### 1.10.1. Pre-existing accidents

APL California, (EMCIP 5033/2017) - Breakage of mooring lines during sudden SSV winds

On 16/07/2017, the ship's stern started to drift from the shore towards the center of Basin I when the wind gusted, and the stern was blown away by the wind. The ship drifted transversely into Basin I and at the same time, due to the movement of the ship, the bow section of the ship struck the ship "KING BASIL" which was tied up approximately 15 m along the bow of the ship "APL CALIFORNIA". The stern of the 'APL CALIFORNIA' struck and damaged the tug 'NEPTUN', which was tied up at Berth 1. There was no major damage to the tug or to the port infrastructure.

The analysis concluded:

- Lack of relevant local weather information from the ship's crew,
- Insufficient mooring of the ship at the stern,
- Inadequate monitoring of brake lining wear on the drum brake shoes, despite regular servicing as recommended by the manufacturer.

Maersk Houston, (EMCIP 2023/004699) – Breakaway from pier, contacts with shore infrastructure, grounding and contact with moored vessel/tugboat

On 19/07/2023, the ship's stern started to drift from the pier towards the center of Basin I after the wind gusted and the stern was torn off by the wind. The ship drifted transversely into Basin I and the movement of the ship brought the ship into contact with the lowered arm of the container lift, the vertical wall of the passenger terminal, the tug Sirius, the vertical wall of the container terminal, and the vertical leg of the container lift. Meanwhile, the ship also ran aground briefly at the passenger terminal.

The analysis concluded:

- Failure to consider the characteristics of the local weather phenomena and lack of proper monitoring weather warnings by the vessel and the responsible services of the Port of Koper.
- Insufficient implementation of the ship's aft mooring,
- Failure to fully implement the prescribed procedures for the maintenance of mooring equipment,
- Use of mooring lines with 2,5 times service lifetime,
- Failure to suspend transshipment operations, stop and secure container cranes in a timely manner,
- Tug readiness and internal procedures for action and preparedness in the event of bad weather.
- Need to designate an additional VHF communication channel.

#### 1.10.2. Next incidents

There have been no other accidents or incidents since the Xin Beijing maritime incident.

## CHAPTER 2 – ANALYSIS OF THE FACTS

From the analysis of the event presented, it can be concluded that:

- The storm system and the possibility of a storm with strong winds was well forecast. The Xin Beijing was able to monitor the weather situation and was also informed of the possibility of windstorm by the agents, and CNP duty officer, who issued a general warning on VHF channel 08 to all ships in the freight port of Koper about the possibility of severe weather and high winds ("Tramontane"),
- The ship was in range of two NAVTEX stations (Split and Mondolfo), both of which gave the appropriate warning; Trieste radio transmitted a SECURITE message on VHF16.
- The Xin Beijing was surprised by the strength of the storm, underestimating the strength of the development and the strength of Tramontana.
- The winch brakes were failing, it is not clear at what load. A more detailed analysis with simulations would be needed. Some of the ropes are, according to the photographs, worn out, and it is evident that not all ropes are the same (see attached pictures). At the time of the event, both forward springs and both aft springs broke, as well as the two shortest stern ropes, which were placed abreast. The other stern lines were subject to slackening of the drum brakes of the mooring winches and were untwisted all the way aft. The headlines remained on the drums.
- Commercial transshipment operations were stopped on time, the horizontal arms of the cranes were raised, and the cranes were secured. The response of all the services and authorities (CNP duty officers, Adria-Tow tugs, Operations department, and linesmen) involved in the solving the incident were well coordinated and efficient.

## CHAPTER 3 – CONCLUSIONS

### 1. Releasing of the mooring winches brakes

At 16:49:32 the forward springs and stern springs of Xin Beijing broke due to a 27,4 m/s gust from direction of 037°. At this point, most probably the aft winch brakes started to fail, and the ship's stern started uncontrollable moving. On the next arrival of the ship (end of September 2023), all winches were found to be renewed and all brake linings had been replaced.



Figure 16: Stern winch and renewed brake linings (Sep. 2023)

### 2. Inadequate ship's mooring pattern

The ship did not use floating mooring devices at the berth, Figure 17 below right shows the mooring of the same ship on the next arrival. The springs were too short, making them steep, i.e., the large vertical angles of the ropes do not provide longitudinal stability of the mooring.

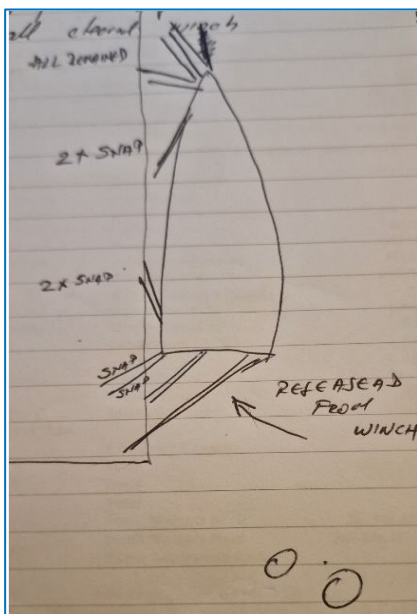


Figure 17: Mooring sketch

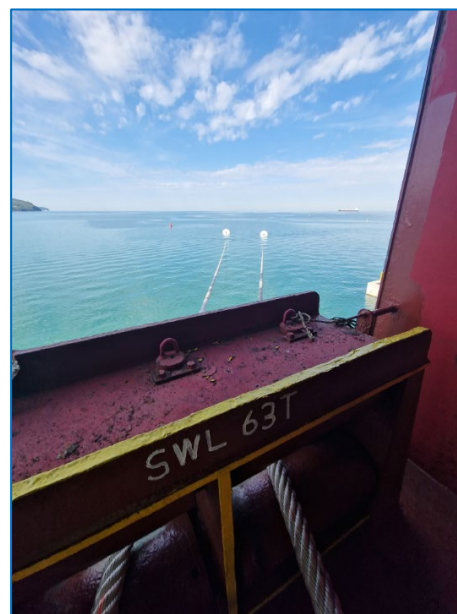


Figure 18: Use of floating devices (buoys)

## CHAPTER 4 – SAFETY RECOMMENDATIONS

A safety recommendation is a proposal made by an investigating body, based on information obtained from an investigation, with the aim of preventing accidents or incidents.

Where the safety issue identified is of such a serious nature that it needs to be urgently addressed, a provisional preliminary safety recommendation is issued, even though the investigation is still ongoing, and the report has not yet been prepared. Tentative safety recommendations were issued on 1.8.2023 (Annex 09). Due to serious marine casualty of Maersk Houston (EMCIP 2023/004699) and marine incident of Xin Beijing described in this report.

### **1. Shanghai Ocean Shipping Co., Ltd.**

1.1. The berthing of ships at Berth 7D shall be planned **to** use a sufficient number of mooring lines on the shore as well as on the mooring buoys. Ropes, especially springs, should be as long as possible.



# ANNEXES

# ANNEX 1 – MASTER’S REPORT TO COMPANY

## 新北京轮科佩尔港突发大风导致断缆情况申明

船名：新北京  
总吨：108069  
净吨：57365

日期：2023/JUL/26TH  
载货类别：集装箱  
载货吨数：34386.5MT  
船籍港：HONG KONG

### 一、损坏事件发生概况

2023年7月26日，新北京轮停泊在斯洛文尼亚的科佩尔港正常进行装卸货作业。1620LT 码头停工。1630LT 大副接代理电话通知半小时后有大风，随后通知船长开始做停泊抗风准备。此时我轮吃水为 9.6m 平吃水，受干舷高度和甲板货物影响，受风面积较大。1632LT 船长通知值班驾驶员到驾驶台备车、备侧推。1635LT 船长上驾驶台，开始观测风向风速。1636LT 甲板部前后分开准备。1640LT 主机及侧推备妥。1645LT 高频 CH08 呼叫 HARBOUR MASTER 申请两条拖轮协助稳泊。1647LT 两条拖轮到位并与我轮建立联系，船长分配船头船尾各一条。拖轮到位后全速顶推。此时开始起风，风速迅速增大，瞬间风力达到 55 节（船舶风速仪数值，实际风速应该大于该数值）。1648LT 船尾 2 根倒缆和 2 根尾缆崩断，船尾开始迅速向外划开，船尾一条拖轮无法顶住我轮，船长立即呼叫船头拖轮移至船尾全速顶推，并用船艏侧推控制船头位置，避免船头向左漂移，触碰岸吊。1649LT 船头拖轮移至船尾全速顶推，由于风力过大、船舶干舷高受风面积大，两条拖轮无法顶住我轮，船尾继续向外划开。1654LT 船头也离开码头一段距离，同时船头 2 根倒缆崩断。1655LT 船长命令抛下右锚 1 节入水。1657LT 第三条拖轮也从前船过来至我轮船尾顶推，协助我轮稳住船位，同时船舶主机微速进、右满舵，尽全力阻止船尾向右划开。1658LT 船尾停止向右摆，三条拖轮同时全速顶推我轮开始回靠泊位。1700LT 风力开始减小，船长安排船尾一条拖轮移至船中前位置进行顶推。1710LT 我轮贴拢码头，开始重新带缆绳。1720LT 天气恢复正常，船尾一条拖轮驶离，剩下两条拖轮继续全速顶推。1730LT 船长联系拖轮和 HARBOUR MASTER，确认船舶没有与码头和岸上设施发生碰撞。1825LT 船头缆绳全部带妥，船尾三根尾缆及两根倒缆带妥，应 HARBOUR MASTER 要求两条拖轮完成协助离开。1855LT 当地代理 3 人上船，了解船舶实际情况。1900LT 船尾缆绳（6+2）全部带妥，同时申请用带缆艇加带一根缆绳系船尾浮筒。1930LT，码头恢复作业，代理 3 人离船。1935LT，PSCO 上船，复制了 SMC、船级证书、DOC 和船员名单，和船长交流了当地天气特点，并了解了船舶断缆情况，1950LT，PSCO 离船。2000LT 最后一根缆绳系浮筒带妥。

### 二、损坏原因分析

科佩尔地区突发大风天气是造成本次事故的主要原因。

### 三、经验教训

1.科佩尔地区雷暴天气多发，经常伴有大风，一般风力发展较快，两分钟之内风速便可从 0 到最大风力。如果没有提前进行准备，根本无法做出应急反应。所以在发现天气异常或者得到码头、代理关于大风警告的通知时，要第一时间备妥主机、侧推，并申请拖轮。2.船舶吃水较小时，拖轮无法靠近船尾位置进行顶

推，顶推效果受影响较大。3 考虑到干舷高度和甲板货物的影响，我们的经验是两条拖轮无法保证船舶安全，需要至少 3 条拖轮。4.岸吊位置距离船舶较近，当船舶漂移时，船舶很难保持与码头平行，船壳极易触碰桥吊。在操纵船舶时，一定要考虑到这个风险。

万幸的是，由于公司领导指导及时，全体船员处置得当，确保了船、货、人员及码头的安全。

本次事件损坏缆绳 6 根，已无法继续使用，具体情况统计如下：

船用纤维绳+尼龙复合七股绳：6 根（长度 220 米，直径 78 毫米，材质：尼龙）（断裂）

在此我申明向有关方面索赔并保留在适当的时候和地点延伸此申明的权力。

船上见证人：

大副：高海伦

驾助：初永明

水手长：王翔

船长（签名）：

（船章）







## English translation (machine translation)

An overview of the occurrence of damage events

Date: 2023/JUL26TH

Cargo category: Negative packing

Cargo tonnage: 34386.SMT

Home port: HONGKONG

On July 26, 2023, the new Beijing ship berthed at the port of Koper in Slovenia for normal loading and unloading

Assignments. Terminal 1620LT is suspended. 1630LT first mate received the agent's phone call to inform him that there was a strong wind half an hour later, and then called

Captain Zhi began to make preparations for mooring against the wind. At this time, the draft of my wheel is 9.6m flat draft, which is affected by the flattening of the freeboard and the middle plate

Affected by the cargo, the wind area is larger. The captain of the 1632LT informs the crew on duty to go to the bridge to prepare the car and prepare the side pusher.

The captain of the 1635LT took turns and begins to observe the direction and speed of the wind. The 1636LT deck section is prepared separately from the front and rear. 1640LT

The main engine and side thruster are ready, 1645LT Shangpin CHOB call HARBOR MASTER in the two tugboats Helping to stabilize the station. 1647LT Two tugboats were in place and contacted by our ship, and the captain assigned one at the bow and one at the stern. The tug pushes at full speed when the tug is in place. At this time,

the wind began to rise, and the wind speed increased rapidly, and the wind reached 55 knots in an instant. Shoot the anemometer value, the actual wind speed should be greater than this value). 1648LT stern 2 x wharf cable breakdown broken, the stern began to row outward rapidly, and a tugboat at the stern could not resist our ship, and the captain immediately called the bow tug. The wheel moves the stern at full speed and uses the ship's

side push to control the bow position to avoid the bow drifting to the left and touching the shore Great. The 1649LT bow tugboat was moved to the stern at full speed for pushing, due to the T- excessive wind and the high wind area on the ship's I Large, the two tugboats Yufa resisted our wheel, and the stern continued to row outward.

The bow of the 1654LT is also a section away from the dock distance, and at the same time the bow of the ship 2 inverted cables break. The captain of the 655LT ordered to drop the right uranium knot into the water. 1657LT Three tugboats also came from the front ship to the stern of our ship to push up, to assist our ship to stabilize the ship's position, and to ask the main engine of the ship at a slight speed. Advance and right full rudder

and do everything in your power to prevent the stern from rowing to the right. The stern of the 1658LT stopped swinging towards the stone, and the three tugboats were the same

When pushing my wheel at full speed, I began to return to the berth. 1700LT The wind starts to wane and the captain arranges for a tugboat at the stern. Move to the front position in the middle of the boat for pushing. The 1710LT wheeled against the dock and began to re-rope. 1720LT dies The gas returned to normal, and one tugboat at the stern of the boat sailed away, and the remaining two tugboats continued to push at full speed. 1730LT

Captain's Wing The tugboat and HA Yang 30UR MASTER confirmed that the vessel had not collided with the quay and shore facilities. 1825LT BOW CABLES ARE ALL SECURED, AND THE STERN THREE STERN CABLES AND TWO INVERTED CABLES SHOULD BE HARBOURED MASTER asked two tugboats to assist 3 local agents at the departure gate 1855LT to get on board and understand the actual situation of the ship international situation. 19001T stern cable (6+2) with all the ropes, please tie the boat with a cable and a cable in the middle Stern Floating Nitrogen

1930LT, the dock resumed for collection, and the agent 3 people disembarked. 1935LT. PSCO aboard copy f SMC, class certificate, DOC and crew list, and the captain exchanged local weather characteristics and learned about it Ship Cable Breakage, 1950LT, PSCO Disembarkation. 2 000LT after a cable tie pontoon with a proper mouth.

1950LT, PSCO Disembarkation. 2 000LT after a cable tie pontoon with a proper mouth.

### 2. Analysis of the cause of damage

Koper IX: The sudden gale atmosphere is the cause of this series of seven original I annihilation

### 3. Lessons learned

1 Thunderstorms are frequent in the Koper area, often accompanied by strong winds, and generally the wind develops quickly, within two minutes. The internal wind speed can range from 0 to high winds. Without advance

preparation, there is simply no way to respond to emergencies. So when you find that the weather is abnormal or get the dock, the agent is ~~off~~When a gale warning is announced, prepare it as soon as possible Proper main engine, side thrust, and apply tugboat. 2. When the draft of the ship is small, the tugboat method is close to the stern cliff for topping Push. The effect of J Bei push is ~~greatly affected~~. 3 Considering the impact of T-side height and deck cargo, our experience is:

Two tugboats cannot ensure the safety of the ship, and it is necessary to reduce the number of 3 tugboats, and the 4 shore hoisting positions are closer to the ship. When the ship is drifting, it is difficult for the ship to remain parallel to the dock. This risk must be ~~taken into account~~.

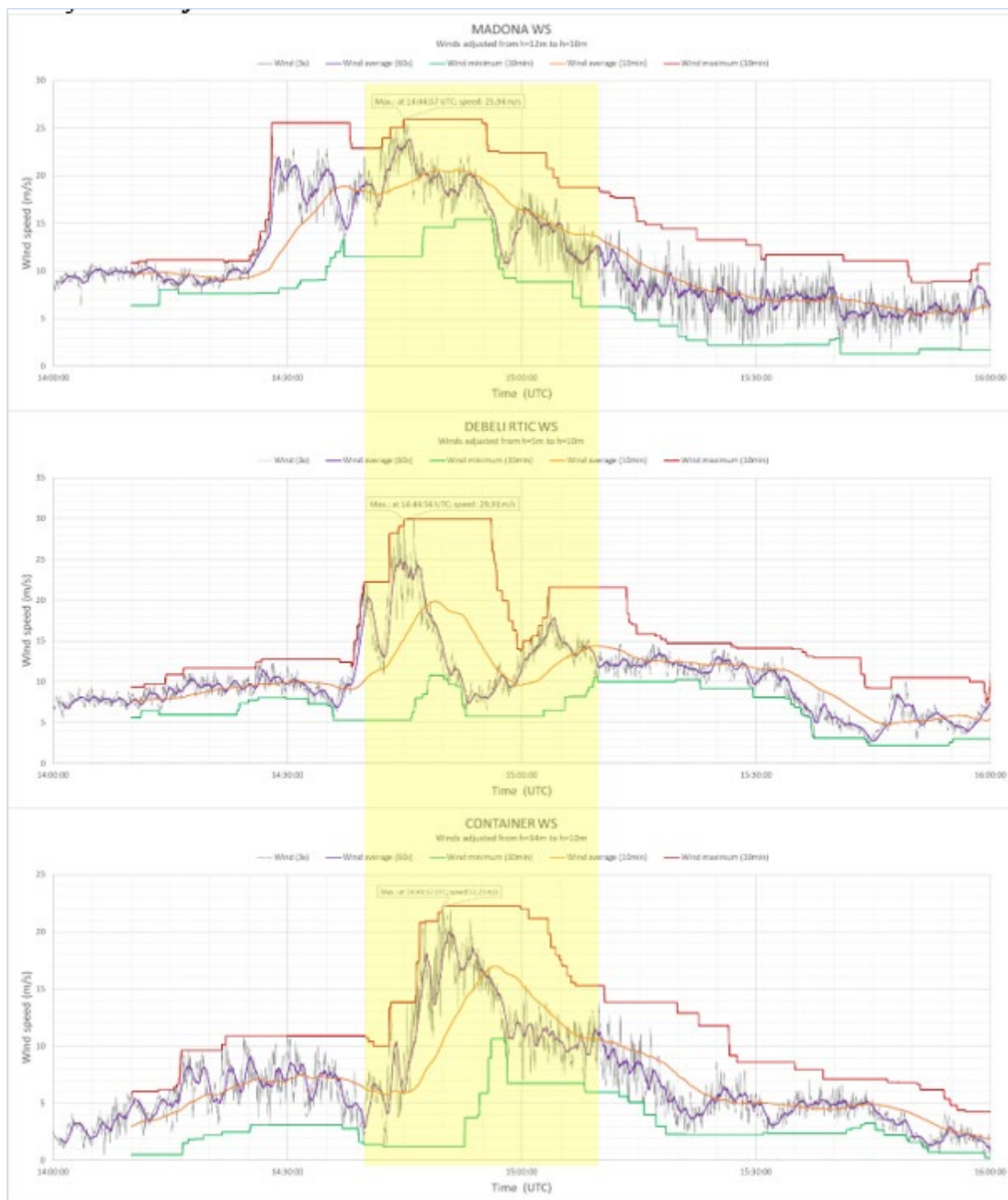
Fortunately, due to the timely guidance of the company's leaders, all the crew handled it properly to ensure the ship, cargo and people staff and the safety of the pier.

The car parts damaged 6 cables, has been ~~Yufa~~ continue to make Gan, the specific situation statistics are as follows: ~~Funagawa~~ Fiber Rope + Nylon Composite Seven-Strand Rope: 6 pieces (length 220 meters, diameter 78 mm, material: Nine Dragon) (break).

Hereby, I have the right to claim compensation from the relevant parties and reserve the right to extend this judgment at the appropriate time and place.

## ANNEX 2 – WIND DATA OVERVIEW

Figures show the wind direction and speed, as well as the wind gust direction and speed from the measuring stations at the container terminal of the Port of Koper, Cape Madona and Debele Rtič. The winds are converted to 10 m height in UTC record. The graphs show the values in the time window of the event that occurred on 26 July 2023 between 14:20 and 15:20 UTC. Winds averaged 7-17 m/s with maximum gusts up to 22.23 m/s from the north (tramontane), daylight visibility was good. Measured wind speeds ranged from 4 to 7 Beauforts (Bf) on the Beaufort scale, while maximum wind gusts were measured up to 9 Bf.



Overview data on wind speed (source: SMA, anemometers at Cape Madona, Debeli Rtič, LK container terminal, winds converted to 10m height, time in UTC)





Overview data on wind directions (source: SMA, anemometers at Cape Madona, Debeli Rtič, LK container terminal, winds converted to 10m height, time in UTC)