Taiwan Transportation Safety Board

Major Marine Occurrence Factual Data Report

July 20, 2023

The Palau-flagged Container Ship ANGEL Sank off near the Port of Kaohsiung

Report number: TTSB-MFR-24-01-001

Report Date： January, 2024

In accordance with the Transportation Occurrences Investigation Act of the ROC and the Casualty Investigation Code (CI Code) approved by International Maritime Organization Resolution MSC.255(84), this report is intended solely for the purpose of enhancing maritime navigation safety.

Article 5, Transportation Occurrences Investigation Act:

The objective of the Taiwan Transportation Safety Board's investigation of major transportation occurrence is to prevent the recurrence of similar occurrences. It is not the purpose of such investigation to apportion blame or liability.

CI Code of the International Maritime Organization (IMO) Chapter 1, Section1.1

Marine safety investigations do not seek to apportion blame or determine liability. Instead a marine safety investigation, as defined in this Code, is an investigation conducted with the objective of preventing marine casualties and marine incidents in the future.

This report is written in both Chinese and English, with the Chinese version being the main one.

Contents

Tables

Figures

Glossary of Abbreviation and Acronyms

Term or Acronym	Definition or Meaning
AB	Able Seaman
AIS	Automatic Identification System
ARPA	Automatic Radar Plotting Aids
BWMS	Ballast Water Management System
BWS	Bilge Water System
COG	Course Over Ground
DBT	Double Bottom Tank
DOC	Document of Compliance
DSC	Digital Selective Calling
G	Center of Gravity
GM	Metacentric Height
HDG	Heading
IMO	International Maritime Organization
ISM CODE	International Safety Management code
ITF	International Transport Workers' Federation
M	Transverse Metacenter
MT	Metric Ton
MRCC	Maritime Rescue Co-ordination Centre
S-VDR	Simplified Voyage Data Recorder
SMC	Safety Management Certificate
SMS	Safety Management System
SOG	Speed Over Ground
SOLAS	International Convention for the Safety of Life at Sea
TIPC	Taiwan International Ports Corporation, Ltd
VHF	Very High Frequency
VTS	Vessel Traffic Service

WT	Wing Tank

（Intentionally left blank）

Chapter 1 Factual Information

1.1 History of the Voyage

On the morning of July 20, 2023[1], off the coast of the Port of Kaohsiung, there was a southeasterly wind force 4 and a wave height of 1 to 2 meters. The Palau-flagged container ship ANGEL, owned by NAVRAMAR Shipping Inc., with a gross tonnage of 16145[2], IMO[3] Numbered 9256406, with 19 Azerbaijani crew members (1 Master and 18 crew members), loaded with 1,349 20-foot standard containers, the ship was anchored at the second anchorage area in the Port of Kaohsiung (Fig.1.1-1). The ship experienced water ingress into the cargo hold from July 4 to July 20, reaching a height of about 4.5 meters[4]. At approximately 0830[5] hours on July 20, the ship's main generator failed and lost all of power. At approximately 0931 hours, the ship's hull tilted about 8 to 9 degrees to the portside, prompted the Master to issue a distress signal. At 1000 hours, the Master announced to abandon ship. At 0530 hours on July 21, the ANGEL completely sank 2.8 miles[6] west of the First Harbor of the Port of Kaohsiung, resulting in a total loss. All 19 crew members were safely evacuated ashore.

---

[1] This report, when referring to international affairs, uses the Gregorian calendar (AD), meaning the year 2023 AD corresponds to the 112th year of the Republic of China.

[2] Gross tonnage (GT) is a measurement of a ship's overall internal volume and is expressed in cubic meters without units

[3] International Maritime Organization (IMO)

[4] The logbook recorded a maximum depth of 4.3 meters, while the crew interview indicated a depth of 4.5 meters.

[5] The times provided in this report are in Taipei time (UTC+8 hours), and the occurrence timeline is based on VTS time.。

[6] North Latitude 22° 36’ 33”, East Longitude 120° 12’ 44”, water depth was about 37 meters

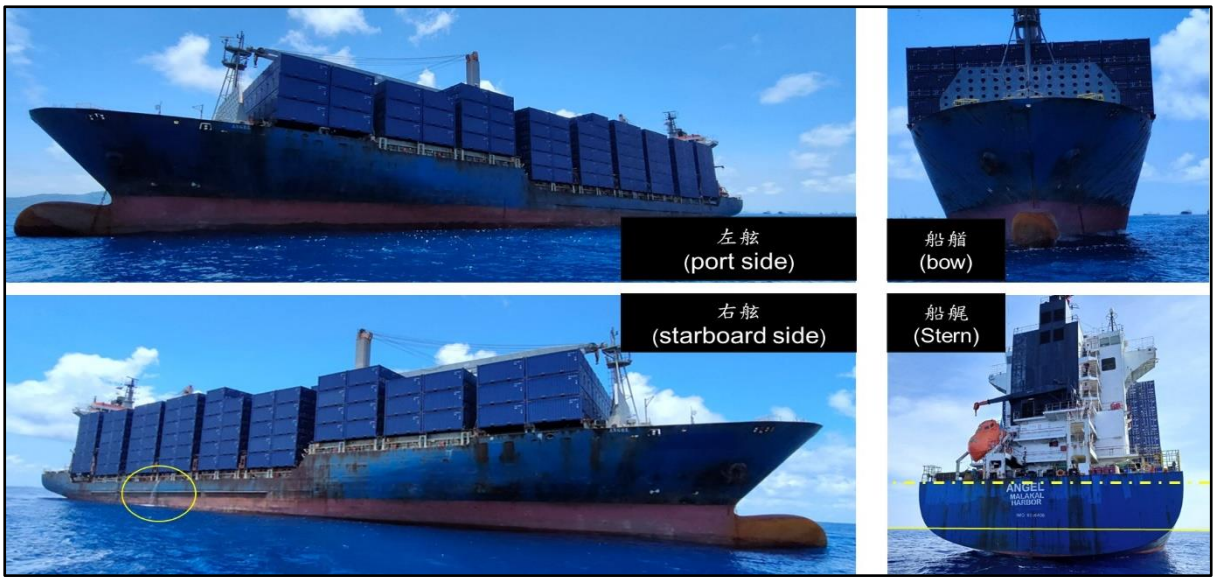


Figure1.1-1 Appearance of the ANGEL before the occurrence (taken on July 20, 2023)

1.1.1 The ANGEL Changed of Classification Society and Flag State

In June 2003, China's Guangzhou Wenchong Shipyard built a container ship named SSL GANGA (the old ship name registered by the previous owner of the ANGEL). This ship changed shipowner, classification society, and flag state several times. According to the Tokyo MOU Port State Control (PSC) inspection records[7], the ship was considered a high-risk ship from 2017 to 2018. From 2018 to April 2023, the SSL GANGA operated in India, and no ship risk-related information was found. In late May 2023, the ship docked at the Port of Colombo, Sri Lanka.

On May 30, the new owner NAVRAMAR changed the name of the ship to ANGEL, changed the country of registration to Palau, and joined the ship classification society International Register of Shipping (hereinafter referred to as INTLREG). The ship was insured by Hydor Insurance Company and managed by ZULU Shipping LLC (hereinafter referred to as ZULU).

[7] https://apcis.tmou.org/public/

1.1.2 Previous Voyage Information of the ANGEL

During the investigation of this case, ZULU and the Master of the ANGEL did not provide information the ANGEL's voyage plan from Colombo, Sri Lanka to Dalian, China.

According to the ANGEL's Automatic Identification System (hereinafter referred to as AIS) track data, voyage logs, and crew interview records, the 18 crew members who received the ship did not complete the handover procedures. Between May 31 and June 2, INTLREG dispatched 1 surveyor who boarded the ship to perform the renewal statutory survey[8].

From June 9 to June 24, the ANGEL weighed anchor and sailed from the Port of Colombo via the Singapore Strait, docked in Hong Kong for supplies, and sailed along the west side of the Taiwan Strait to the Port of Dalian in China. At approximately 1010 hours on June 24, 1,349 new 20-foot empty bulk containers began to be loaded at Dalian. During this period, the insurance company Hydor sent a surveyor embark the ship for survey[9].

According to interview records and mobile phone records of the chief engineer, oil leakage occurred in the front section of the fourth cargo hold from June 2 (Fig.1.1-2). On June 19 and 20, the Master who received the ship reported to ZULU the water ingress in the cargo hold of the ANGEL.

---

[8] According to International Conventions, ship inspections are divided into Renewal Survey (once every 5 years); Intermediate Survey; Annual Survey (once every 1 year, within 3 months before and after the deadline); Bottom Survey (twice every 5 years; or shall not exceed 36 months).

[9] Entrusted to T&A Marine Consultants and Surveyors Co., Ltd.

Figure1.1-2 Photo of oil leak from the front section of the ANGEL's 4th cargo hold to the central aisle of the 4th cargo hold

Based on interviews and relevant photos from the crew of the ANGEL, it was discovered that after the ship sailed from Colombo, a broken metal plate was found under the base of the container in the third cargo hold at "110504". This breakage resulted in the rupture of the third ballast waterside tank (starboard side no. WB-DT3S), causing water to leak into the third cargo hold. The water ingress reached a height of approximately 1.3 meters, with the remaining cargo (coffee beans) and bilge debris previously loaded floating on the water surface (Fig. 1.1-3 and 1.1-4).

Figure 1.1-3 is a schematic diagram of the distribution of the ANGEL's cargo holds and the ballast water tank in the third cargo hold. The red star in the figure indicates the location of the water ingress. Since the crew could not drain the accumulated water from the third cargo hold, they dispatched crew into the third

cargo hold and opened the manhole[10] cover of the third ballast water double bottom tank (portside, no. WB-DB3P) to allow the accumulated water to drain into the water tank. They then used the ballast water pump to discharge it, causing a large amount of residual cargo and bilge debris to flow into the ballast tank (Figure 1.1-4).

The deck log book did not record the water ingression in the 3rd cargo hold and the oil leakage in the 4th cargo hold on the previous voyage.

1.1.3 Occurrence Voyage Information of the ANGEL

The ANGEL berthed at Dalian from June 24 to 25. According to the Hydor AS insurance company (hereinafter referred to as Hydor) survey report showed that oil leakage was found in the fourth hold and water ingress in the fifth cargo hold. At approximately 1730 hours on June 25, the crew of the ANGEL did not fill in the next port information in the deck log book (logbook) and sailed away from Dalian. According to the chief engineer, the destination port was St. Petersburg, Russia, or Tallinn, Estonia.

At about 1710 hours on June 26, the logbook recorded for the first time that the height of water ingress in the third cargo hold was 10 centimeters. The logbook record on June 27 showed that the water ingress height of the third cargo hold had increased from 30 centimeters to 50 centimeters, and the ship was rolling about 5 degrees to port and starboard side. The Master reported to the company and continued to operate the ballast water system to pump water.

From June 28 to June 29, the ANGEL sailed south along the coast of China. The jacket of the fourth cylinder of the main engine cracked, resulting in a loss of power, and the vessel drifted in the East China Sea. It later anchored off the

[10] After the ship loaded and left the port from Dalian, there was no loading in the 3rd cargo hold row 02 and 04, the location of the manhole cover.

coast of Taizhou, Zhejiang and was stopped for more than 10 hours for engine repairs.

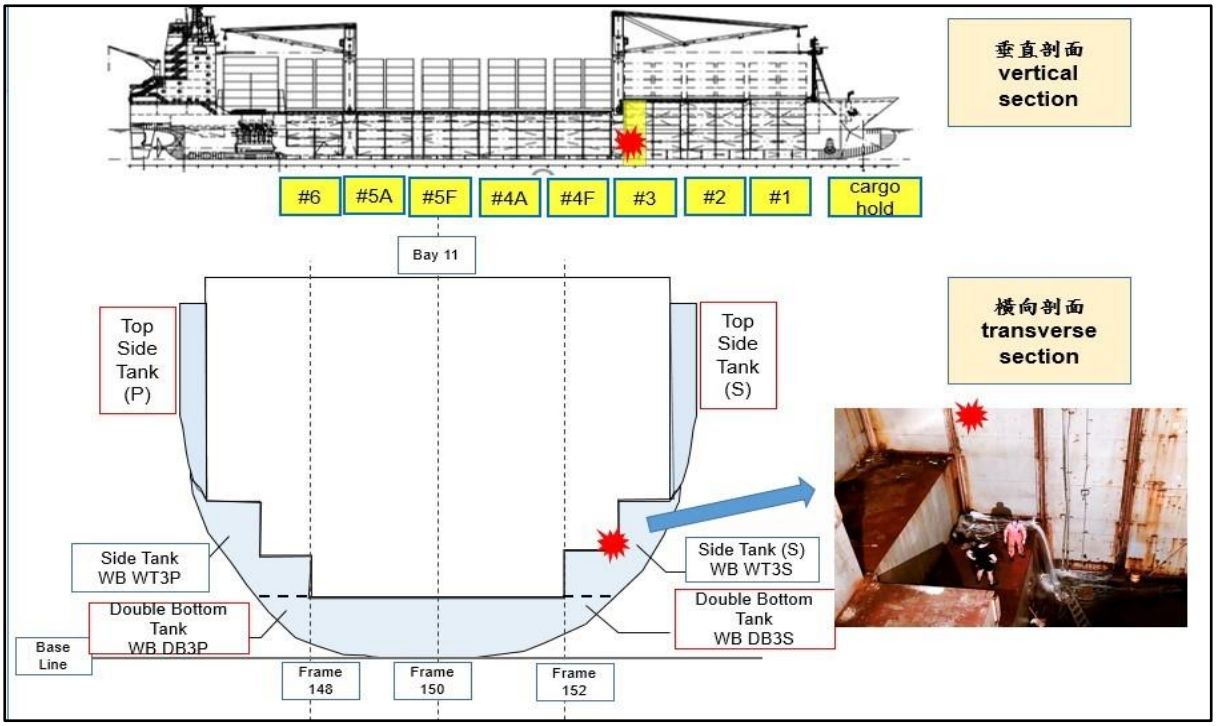


Figure1.1-3 Schematic diagram of the ANGEL's cargo hold distribution and 3rd cargo hold ballast water

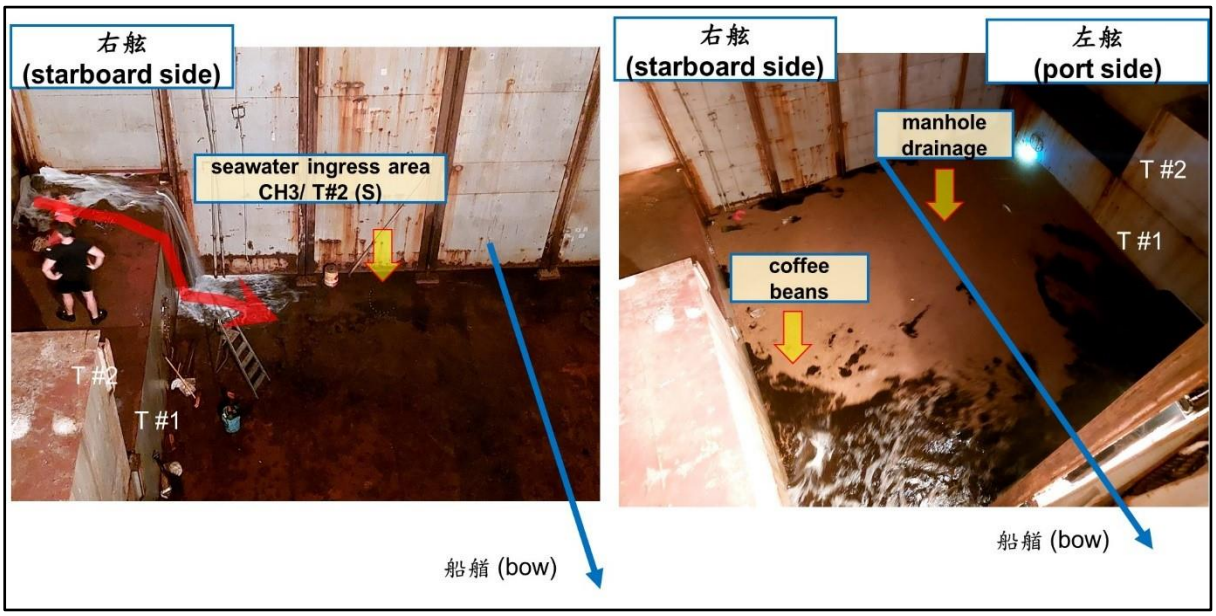


Figure 1.1-4 Photos of the ANGEL's 3rd cargo hold seawater ingress and appearance before cleaning by crew (before loading)

On June 29, the chief officer (C/O-1) of the ANGEL sent a distress e-mail[11] to the International Transport Workers' Federation (ITF) and the Maritime & Port Authority of Singapore (MPA Singapore) and listed 10 major deficiencies of the ANGEL (refer to Fig.1.10.1 and Appendix 1).

1.1.4 Alters Voyage Plan and Heads to Kaohsiung for Anchorage

On June 30, the MPA Singapore forwarded the panpan email from the C/O-1 of the ANGEL to the flag state of Palau. At 1250 hours on June 30, Palau flag state authority notified the INTLREG via email briefly, “1. The ANGEL’s status has been reported to the Maritime Safety Administration of the People’s Republic of China (China MSA); 2. The Palau flag state authority has mandated the ship to promptly proceed to Taiwan for inspection by local Palauan inspectors, who will board the vessel.”

The logbook records show that at about 0100 hours on July 1st, the Master changed the course and sailed for the Port of Kaohsiung. From 0840 to 1400 hours on the same day, ZULU delegated S5 Asia (Hong Kong) Limited Taiwan Branch (hereinafter referred to as S5 ASIA) to handle in-port maintenance matters; and contacted Chen Chian Marine Engineering Co. Ltd. (hereinafter referred to as Chen Chian Marine) to arrange underwater survey of the hull.

At about 1230 hours on July 2, a manager of S5 ASIA contacted the South Taiwan Maritime Affairs Center of the Maritime Port Bureau (MPB) by phone. The proposed “Single Port Entry” and “Emergency Port Entry” plans for the ANGEL were not approved by the port authority. At about 1600 hours, the ANGEL arrived at Kaohsiung, about 10 nautical miles west of the 1st Harbor of Kaohsiung Port. At 2046 hours on July 4, the ANGEL dropped anchor and

[11] Title: Panpan- panpan-panpan

temporarily anchored in the second anchorage area of the Port of Kaohsiung.

On July 8, a shipowner representative of the ANGEL led 8 new crew members onboard, dismissal 7 crew members and left the ship. The crew replacement included the master (M-1) and the chief officer (C/O-1). From about 1120 to 1830 on July 10, Palau flag state dispatched a surveyor embark the ship for survey. On July 14, the INTLREG dispatched a surveyor and a diver from the Chen Chian Marine embark the ship to conduct underwater survey of the hull.

From July 2 to July 15, water ingress into the no. 4 and no.5 cargo holds of the ANGEL reached a depth of 4.5 meters. The crew members used ballast pumps to regularly drain the sixth ballast water side tanks (the port and starboard sides) every few hours to maintain the ship's balance (Figure 1.1-3). The Master of the ANGEL did not report the actual situation to the Port of Kaohsiung Vessel Traffic Services (VTS) operator.

At 1218 hours on July 15, Chen Chian Marine informed ZULU via email, "*The hull paint shows a lot of areas with missing paint, these areas also have heavy barnacle growth ... (skip). The leak is under the barnacle growth because that would be the area with rust and corrosion. Without water being sucked out of the tank, we cannot see where the leak is coming from. The diver attempted to remove the barnacles at some areas of concern but still did not find the puncture leak*." At 2107 hours on July 16, ZULU informed S5 ASIA via email briefly, "*we are kindly requesting you to arrange a safe berth to wait the weather and complete all possible maintenance while the coming typhoon hits the area in the next few days… (skip) we would need a least 2 or 3 tugs.*" S5 ASIA immediately contacted various ports in Taiwan to arrange for the ANGEL to arrive at the port for berthing and maintenance.

The logbook on July 17 showed that the water ingression height records in the 3rd, 4th, 5th and 6th cargo holds of the ANGEL were 10 centimeters, 4.3

meters, 4.3 meters and 20 centimeters, and respectively. At 1047 hours, the Port of Kaohsiung VTS operator called the ANGEL via Very High Frequency (VHF), the Master responded: "*engine in good condition*" and did not mention the problem of water in the cargo hold. At 1419 hours, S5 ASIA contacted ZULU via email briefly, "Regret to inform you that all ports are not available to arrange a berth for vessel maintenance. FYI, as per port regulation, once typhoon warning announcement, Harbor Master will order all vessels to leave from port. For taking shelter typhoon in open sea, the ship cannot stay in port." S5 ASIA and the management company then began to discuss the matter of finding a tugboat from mainland China to tow the ANGEL to Guangzhou. At 2100 hours on July 17, the Master of the ANGEL informed ZULU "Vessel is almost losing seaworthiness, company has been informed about the situation."

1.1.5 Applying for Emergency Port Entry

At 0725 hours and 1042 hours on July 18, S5 ASIA informed ZULU via email briefly, "we need P&I Rep to contact port authority urgently, port may request financial guarantee from P&I ... (skip) The MPB still refuse our proposal due to regulation." At 1050 hours, ZULU responded to S5 ASIA , "this is request an emergency port call of our vessel ANGEL to Kaohsiung ... (skip) This situation as very critical and discuss necessary permissions with authorities asap. we would need minimum two harbor tugs too have no bow thruster operational."

Between 1058 hours and 1110 hours on July 18, the Port of Kaohsiung VTS operator called the ANGEL via VHF, and the Master responded briefly, " the cargo hold is flooded, and pumping operations have been ongoing for several days. Divers have been dispatched to inspect the situation, and fortunately, no abnormalities have been detected, indicating that there is no immediate danger;...it is dangerous to leave the anchorage area to take refuge, because we cannot control the situation of water ingress into the cargo hold...Because there is

a problem with the ship, water is pumped out of the cargo hold under pressure, but there is goods in the cargo hold, we cannot pump water" The Master did not report the height of water in the cargo hold to the VTS operator.

At 1716 hours on July 18, the Master of ANGEL informed S5 ASIA via email briefly, "I kindly want to inform you that the performance of passage of the vessel to any place is considered impossible because seaworthiness of the vessel is missing due to below reason:(9 reasons)…At the moment, the situation is stable, we often pump out ballast from one tank, but if it fails, we will also have the risk of a non-return roll and the ship will capsize, which will lead to irreversible consequence; In connection with the above, I kindly ask you to send an official request to the port authorities to provide us with an emergency call to the port for the rescue of cargo, ship and crew.*"* (Appendix 2)

At 1749 hours on July 18, S5 emailed the MPB (email code A) and Port of Kaohsiung Taiwan International Ports Corporation, Ltd. (email code B) to request emergency entry. After verification by the investigation team, neither email code A nor B was received (refer to 1.10 Interview summary and Appendix 3)

1.1.6 Announcement of Abandon Ship and Its Consequence

The logbook shows that the crew of the ANGEL did not fill in the information about the water height in the cargo hold on July 19 and 20. At 0939 hours on July 19, Port of Kaohsiung Taiwan International Port Corporation Ltd. (hereafter referred to as TIPC-Kaohsiung) notified S5 AISA by fax (English translation), "1. Our company has officially received the port entry maintenance application rejection from the Maritime Port Bureau (MPB) under the Ministry of Transportation and Communications (MOTC)... (1) Before sunset on July 19, 2020, the vessel should sail away from the anchorage area to take shelter... (3) Please take the initiative to report the water pumping situation and bow tilting

situation to the VTC tower of TIPC-Kaohsiung at 00:00, 06:00, 12:00 and 18:00 daily". (Appendix 4)

At 15:55 hours, S5 ASIA submitted an official letter to the MPB, primarily seeking emergency port entry for repairs to the ANGEL due to vessel malfunction (Reference No. Wu Gao Zi No. 112071902, Appendix 5). The letter did not address critical issues such as water ingress in the cargo hold, the vessel's loss of seaworthiness, and the "Application Form for Emergency Port Entry" was not filled out. On the afternoon of July 19, S5 ASIA was also busy discussing a backup plan with ZULU and dispatched a tugboat from Guangzhou to tow the ANGEL to Guangzhou.

At 1832 hours on July 19, the Master (M-2) of ANGEL informed S5 ASIA and ZULU via email, "As we agreed before we will try to start our ME for leaving anchorage area, but unfortunately we are faced with problem, now all engine crew trying fix this problem. I kindly ask you send this information to MPB and Port Authorities and in additional to VTS." The Master failed to report the water ingression and pumping out of the cargo hold to the Kaohsiung VTS operator and S5 ASIA shipping agent. At 1857 hours, S5 ASIA contacted Port of Kaohsiung VTS, briefly (English translation), "The Master just informed me... He said there was a problem with his main engine and he was trying to fix it. I asked him to report it to you"; "If the main engine comes back there's no problem. The problem is, it may be that it hasn't been activated in the past few days or two weeks."

At about 0000 hours on July 20, the Kaohsiung VTS operator called the ANGEL via VHF, and the Master responded briefly, "No, we are finding question." The Master did not report to the VTS operator that the water in the cargo hold was as high as 4.3 meters. At 0601 hours, the VTS operator called the ANGEL via VHF. The Master responded briefly, "Yeah, in very good condition. But now engine crew members is working in engine room and they are find their

problems. And they are keep the problem when finish the problem we will call you again”

According to interviews with the Master and chief engineer of the ANGEL, at 0547 hours on July 20, the main generator of ANGEL failed for the first time, resulting in a complete power outage throughout the vessel. Power was restored at about 0630 hours. At about 0830 hours, S5 went to the Harbor Management Division of TIPC-Kaohsiung and requested a 40-hours extension for the ANGEL to remain anchored at the anchorage area, allowing the shipowner to arrange for a tugboat from mainland China to provide assistance. At 0851 hours, the Kaohsiung VTS operator inquired via VHF about the availability of any tugboats to assist the ANGEL. The Master responded briefly, “Not now, tug boat assistance.”

At 0830, the generator of the ANGEL failed for the second time. The entire ANGEL lost power and the crew was unable to restore power. As a result, the ballast water pump could not operate to stabilize the ship. At this time, the ship's hull tilted to the portside about 8 to 9 degrees. At 0921 hours, the owner's representative of ANGEL notified S5 ASIA via WhatsApps (Appendix 6), “We needs emergency help, we have a blackout situation on board, can’t run our ballast pumps, and vessel getting heeled. It seems Master calls MAYDAY.” and instructed S5 shipping agent: “We need a vessel alongside to give us a power.” At about 0945 hours, the Master gave the order to abandon ship and close the oil tank valve. Crew interviews indicated that when all crew members gathered and began to abandon ship at 1000 hours, the ship's hull tilted about 8 to 9 degrees to the portside (detailed Fig. 1.1-5). At about 1015 hours, the TIPC-Kaohsiung established an emergency response team to respond; at 1235 hours, the Coast Guard completed the rescue of 19 crew members of the ANGEL.

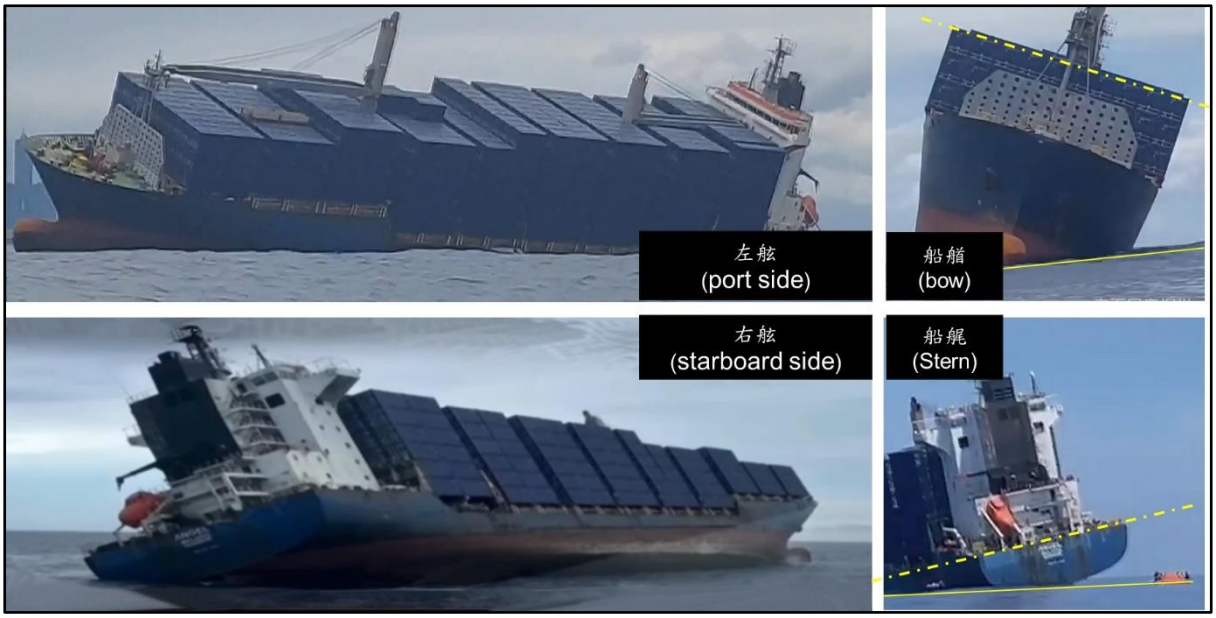


Figure1.1-5 Photos of the ANGEL's appearance during the period after being abandoned

Figure1.1-6 The containers that fell off the ANGEL

At about 0019 hours on July 21, the ANGEL's hull continued to tilt severely to the portside until the deck made contacted with the sea, resulting in water ingress at the stern. The hull gradually sank, leaving only the bow floating on the water. At about 0530, the ANGEL completely sank to the bottom approximately

2.8 nautical miles[12] of the south breakwater of the 1st Harbor of the Port of Kaohsiung, the ship's hull tilted 3 degrees to the starboard side, and the reference water depth was about 37 meters. All hatch covers were fully detached from the ship's hull, and 1,349 empty 20-foot bulk containers on the hatch covers and in the ship's holds either floated on the sea surface or sank in the surrounding sea area. (Fig.1.1-6).

1.2 Injuries to Persons

During the process of abandoning ship, the chief engineer incurred a minor hand injury. Refer to Table 1.2-1 for detailed statistics on fatalities and injuries.

Table1.2-1 Fatality and injury statistics

Fatality and Injury Situation	Master	Crew	Pilot	Total
Death	0	0	0	0
Severe Injury	0	0	0	0
Minor Injury	0	1	0	1
No Injury	1	17	0	18
Total	1	18	0	19

1.3 Damage to the Vessel

The ANGEL sank, total loss.

[12] North Latitude 22° 36’ 33”, East Longitude 120° 12’ 44”

1.4 Other Damage

1.4.1 Environmental Pollution

According to the ANGEL's engine logbook record, the vessel had 491.848 metric tons of oil onboard, including: 393.4 metric tons of low-sulfur fuel, 98.1 metric tons of light diesel oil, and 0.348 metric tons of lubricating oil. This occurrence caused the ANGEL to sink and resulted in a total loss.

On September 21, 2023, TIPC-Kaohsiung, together with relevant units, completed the removal of residual oil from the ANGEL. The residual oil from the ship was distributed in 14 oil tanks, totaling 470 metric tons.

The monitoring and prevention of residual oil pollution from the ANGEL was the responsibility of the Ocean Conservation Administration (OCA) of the Ocean Affairs Council (OAC). The TTSB investigation team did not obtain relevant information on residual oil pollution.

1.4.2 Other Damage

No related issues.

1.4.3 Search and Rescue Information

No related issues.

1.5 Personnel Certification and Experience

1.5.1 Key Crew Background and Experience

Upon investigation, the crew list of the ANGEL departing from Dalian, China, the actual number of crew members at the time of departure, and the qualifications of the crew all comply with the requirements of the minimum safe manning certificate for that vessel.

There was a Master and 18 crew members, a total of 19 seaman on board, all of whom were Azerbaijani nationals. They all hold certificates of competency issued by the authorities.

The information of the key crew members is as shown in Table 1.5-1.

Table1.5-1 Basic details of key crew members

Item	Master	Chief Officer (C/O)	Chief Engineer (C/E)
Nationality	Azerbaijan	Azerbaijan	Azerbaijan
Gender	Male	Male	Male
Date of Birth	1990/06/30	1986/09/21	1963/08/22
Passport Validity	2032/05/31	2031/04/08	2028/03/02
Sea Service Experience	Seafarer 11 Years Master 3 Years	Seafarer 14 Years C/O 3 Years	Seafarer 31 Years C/E 23 Years
Time on Board	12 Days	12 Days	1 Month and 26 Days
Certificate Type	Master on ships of 3000 gross tonnage or more [13]	Chief Officer on ships of 3000 gross tonnage or more[14]	Chief Engineer of ships powered by main propulsion machinery of 3000 kW propulsion power or more[15]

1.5.2 Activity in 72 hours within 7 days

According to the information collected by the investigation team and crew interview records, the Master and other crew members had normal rest hours before the occurrence.

[13] Issued by Republic of Azerbaijan, State Maritime Agency, issued date: 2020/10/13.
[14] Issued by Republic of Azerbaijan, State Maritime Agency, issued date: 2021/03/04.
[15] Issued by Republic of Azerbaijan, State Maritime Agency, issued date: 2020/08/13.

1.6 Weather and Sea Conditions Information

At the time of the occurrence, the weather at the Port of Kaohsiung was sunny with good visibility. In the open sea, there was a southeasterly wind with a force of 4 and wave heights from 1 to 2 meters.

On July 14, a tropical disturbance “98W” was generated in the waters southwest of the Caroline Islands, east of Philippines.

On July 20th about 0200 hour, “98W” was located about 1,640 kilometers southeast of Eluanbi, and intensified into a tropical depression “TD06” , moving north-northeast, has the tendency to develop into a typhoon. On July 21 at 0800 hours, “TD06” was located in the southwest of Guam and strengthened into Typhoon “DOKSURI”. On July 24, Typhoon “DOKSURI” moved northwestward, approaching the Bashi Strait.

1.7 Vessel Information

This section is divided into five sub-sections: vessel basic information, cargo hold basic information, cargo hold bilge water system (BWS), ballast water management system (BWMS) and ship inspection and certificates.

1.7.1 Vessel Basic Information

Table 1.7-1 Vessel basic information

Vessel basic information	
Flag state	PALAU
Port of Registry	MALAKAL HARBOR
IMO No.	9256406
Call sign	T8A4295
Type of ship	Container ship
Hull material	Steel
Gross tonnage	16145
Length overall	172.5 meters
Width	25.1 meters
Midship depth molded	14.2 meters
Ship owner	NAVRAMAR Shipping INC.
Ship's company	ZULU Shipping LLC
Ship operator	ZULU Shipping LLC
Ship completion date	2003.6.30
Ship building location	GuanZhou WenChong Shipyard Co. LTD.
Main engine model	6S60MC-C
Main engine manufacturer	HD-Man B&W
Classification society	International Register of Shipping
Number of Crew per Minimum Manning Certificates	16
Number of Crew for which Safety Equipment is provided	30

1.7.2 Cargo Hold Basic Information

The ANGEL had a capacity to carry 1,541 twenty-foot equivalent units (TEU). Containers could be loaded in both the cargo hold and on the main deck. The hull was a double hull design, with ballast tanks located in the bottom and sides of the cargo hold, divided into bilge and side tanks. Figure 1.7-1 provides a transverse and vertical cross-section of the ANGEL. On the occurrence voyage, the ANGEL loaded 1,349 new 20-foot empty bulk containers in Dalian Port.

The ANGEL had a total of 6 cargo holds and 2 cargo derricks, and has a bow thruster. Detailed diagram of the cargo holds and derrick distribution of the ANGEL are shown in Fig. 1.7-2.

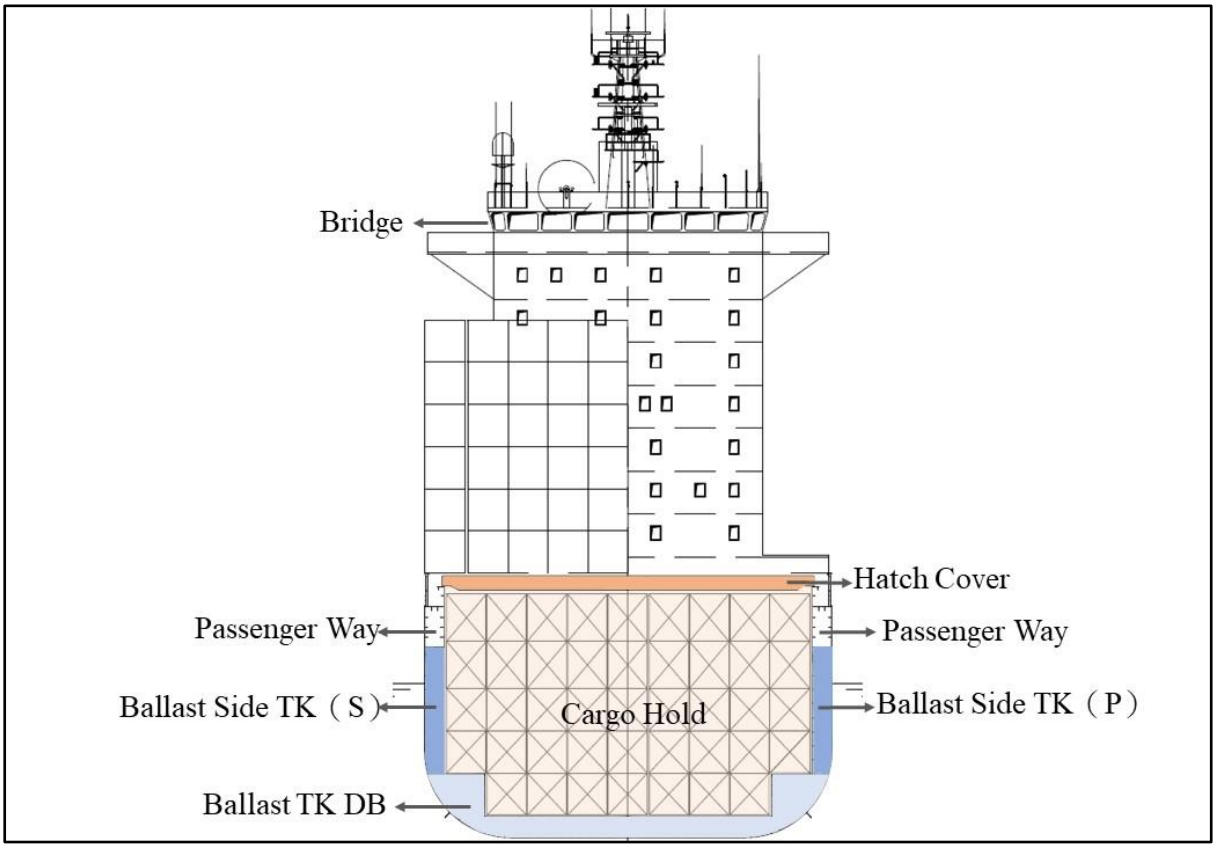


Figure1.7-1 Horizontal and vertical cross-section of the ANGEL

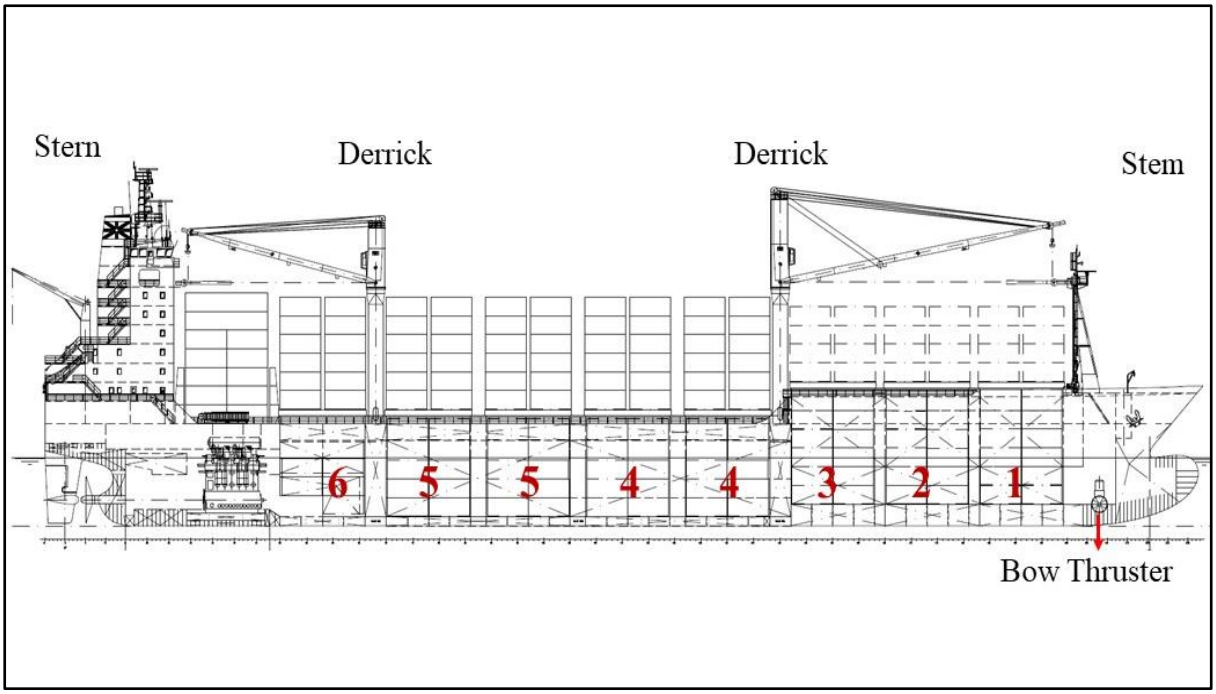


Figure1.7-2 Distribution of the ANGEL's cargo holds and derricks

1.7.3 Cargo Hold Bilge Water System (BWS)

Bilge water originates from hatch cover inadequacies, pipe leaks, plate leaks, seepage through outer plates, tail shaft sleeve and rudder sleeve stuffing box leaks, and condensation due to temperature variations during ship transport. Under normal circumstances, the engine room experiences the most significant accumulation of bilge water. This water not only corrodes the hull but can also lead to cargo damage, impact the ship's operations, and even affect the stability and navigation safety of the vessel.

The ship's bilge water system (BWS) mainly consists of bilge wells, bilge alarms, bilge water pumps, bilge water pipelines, oil-water separators, slop tanks, and related valves. The BWS on a ship can directly remove the accumulated water in the cargo hold, while the water in the engine room needs to be separated from oil before discharging into the sea. This achieves the purpose of clearing the accumulated oil and water in the ship's bilge. The main function of the bilge water system is to discharge accumulated water in various compartments of the ship

(including the engine room, boiler room, cargo hold, living cabin under the waterline, isolation compartments, void compartments, etc.) outboard in a timely manner to ensure navigation safety and ensure that mechanical and electrical equipment is working properly and the goods are intact.

The cargo hold bilge water system of the ANGEL was equipped with a bilge water and firefighting pump as the main operational pump. This pump could discharge the accumulated water in all cargo holds overboard through the pipeline (Fig.1.7-3, 1.7-4, and 1.7-5). If the bilge water and firefighting pump failed, the ballast pump could be used to discharge the bilge water.

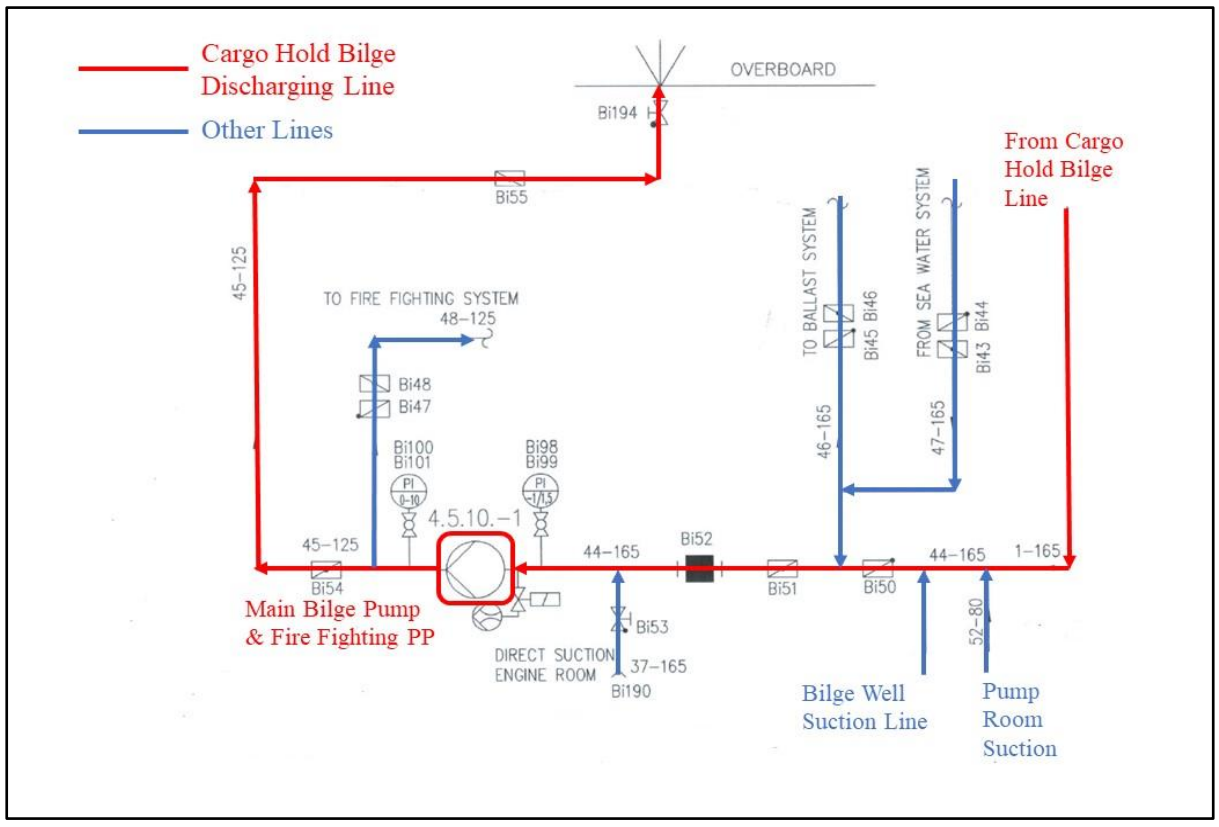


Figure1.7-3 Diagram of cargo hold bilge water system piping

1.7.4 Ballast Water Management System (BWMS)

Ballast is an inherent necessity during a ship's voyage to maintain stability and balance. Loading and adjusting ballast water are essential practices for this

purpose. However, when ships load ballast water, organisms from sea may enter the ballast water tanks, posing a potential threat upon discharge and harming the marine environment. To address this concern, ships implement a Ballast Water Management System (BWMS) to treat and manage ballast water, thereby minimizing the risk of introducing harmful organisms into new environments.

The ANGEL utilized seawater as ballast water. Seawater entered the ballast water system pipeline from the sea chest, and it could be conveyed to the ballast water tank through two ballast water pumps (Ballast Pump). In addition to the front and rear peak tanks, the ANGEL ballast water tank also had 10 ballast bottom tanks (Double Bottom Tank, DBT) and 10 ballast wing tanks (Wing Tank, WT). The total ballast water volume was 6,796.9 m^3. The ballast tank water filling port and suction port of each ballast water tank were the same, that is, the water filling and suction pipes were shared.

The ANGEL used seawater as ballast water. Seawater entered the ballast water system pipeline from the sea chest. Seawater could be transported to the ballast water tank through two ballast water pumps (Ballast Pump); the path is shown in Fig. 1.7-4 in blue lines. If seawater was to be discharged from the ballast water tank overboard, a ballast water pump was also used to pump out the ballast water from the ballast water tank, and sent through the ballast water system pipeline to the discharge outlet. The path is shown in Fig. 1.7-4 in yellow lines. Fig. 1.7-5 is a diagram of the distribution of the ballast water tanks and ballast water pipelines of the ANGEL.

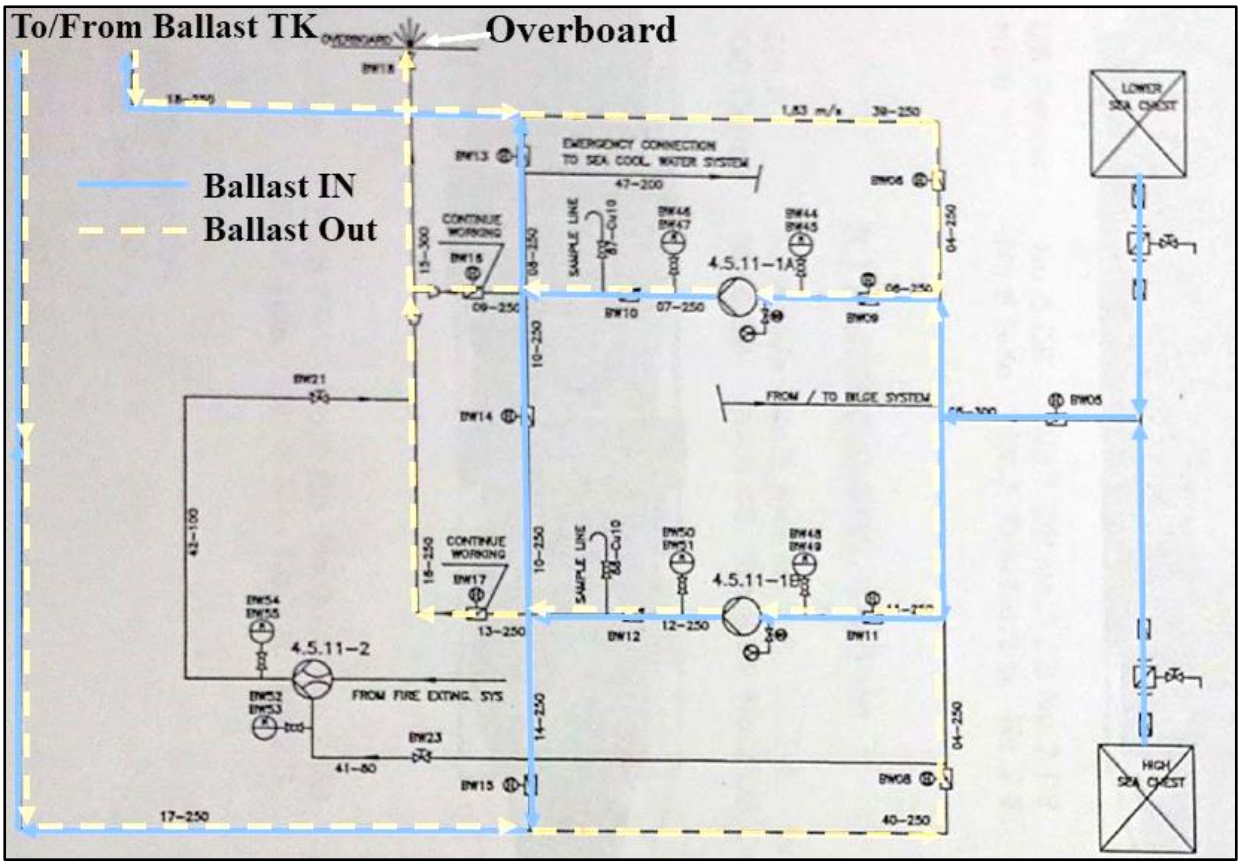


Figure1.7-4 Diagram of ballast water system pipeline

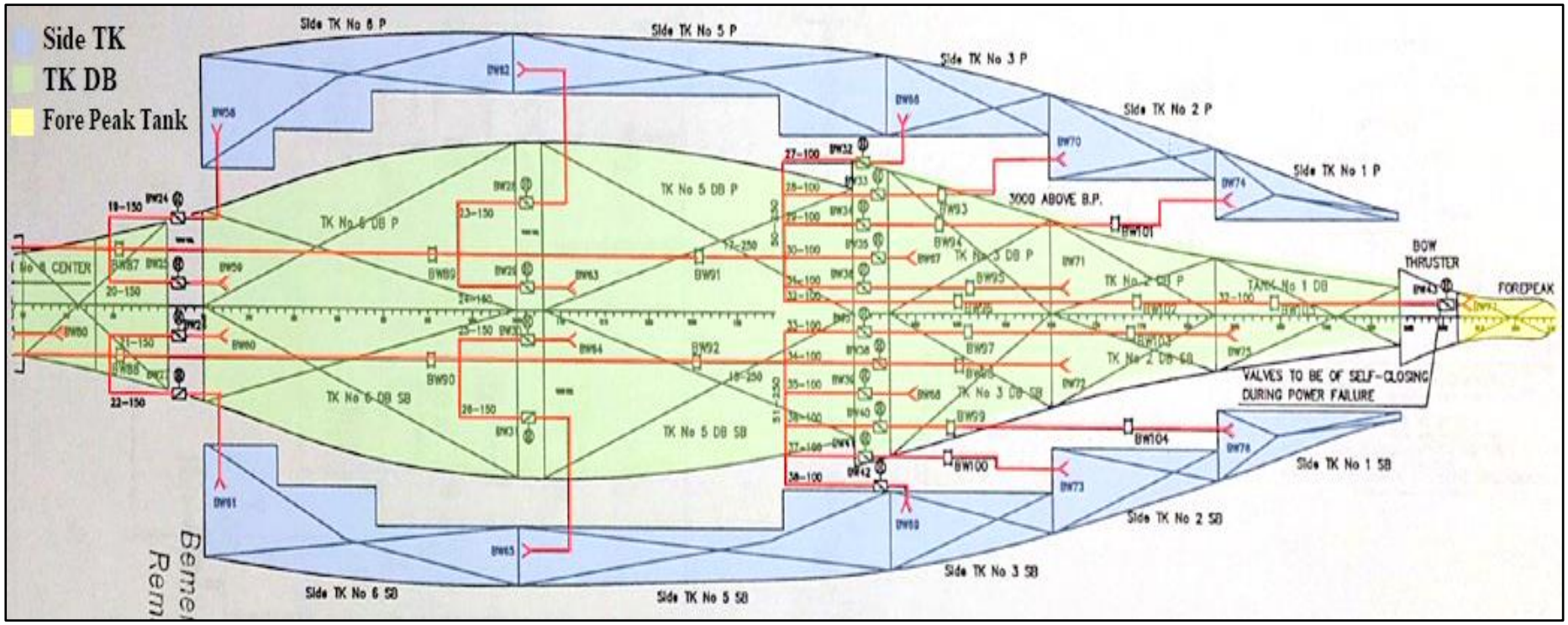


Figure1.7-5 Diagram of the distribution of the ballast water tanks and ballast water pipelines of the ANGEL

1.7.5 Ship Inspections and Certificates Handling

This section is included 4 sub-sections to explain the ANGEL's ship inspection records and related certificates information.

1.7.5.1 Validity of the ANGEL's Ship Certificates

On July 4, 2023, the ANGEL's Classification Society INTLREG commissioned Lead Shine Service Co., LTD (hereinafter referred to as Lead Shine) embark the ship for inspection on July 14, 2023.

From July 21 to 24, 2023, the special investigation team obtained the relevant certificates of the ANGEL from its shipping agent S5 Asia (Hong Kong) Limited Taiwan Branch (hereinafter referred to as S5 Asia). The relevant certificates were valid at that time. The next day, the special investigation team obtained the relevant certificates for the ANGEL from the country of registration Palau. The relevant certificates were valid at that time. On August 2, the special investigation team obtained the relevant certificate status of ANGEL from Lixuan Marine. At that time, the relevant certificates were valid[16].

On August 24, 2023, through the Norway Wikborg Rein Advokatfirma AS (Wikborg Rein) and then the Chinese Maritime Law Firm, the ANGEL 's Hydoar AS insurance company (hereinafter referred to as Hydoar) notified the MPB of the following letter, "*Hydoar AS updated its policy on June 28, 2023, and added a defect warranty note, that is, for any defects in the ship condition survey report or losses caused, Hydoar AS will not be insured... On July 7, 2023, Hydoar AS informed the "ship owner" of the ANGEL about the termination of insurance, effective July 21, 2023.*"

---

[16] Lead Shine accessed the INTLREG website to inquire and download

On September 20, 2023, NAVRAMAR Shipping Inc., the owner of the ANGEL, sent a letter to the TTSB through Holman Fenwick Willan LLP of London, UK, stating that (English Translation): "NAVRAMAR has purchased third-party liability insurance for sufficient consideration before the incident, this insurance covers accidents such as marine oil pollution and shipwreck removal."

On September 8, 2023, INTLREG provided two survey reports[17] of the ANGEL's, one Class Warning Letter issued by INTLREG to ZULU, one notice from the flag state to suspend the ANGEL's certificate, Narrative Survey Report, Ship Survey Status report, and related documents. Table 1.7-2 compares the memorandum of recommendations/conditions of class imposed by the classification society for the angel wheel, and Table 1.7-3 comparison table of the memorandum of recommendations for the angel wheel proposed by the classification society.

Table 1.7-2 Comparison table of the memorandum of recommendations for the ANGEL imposed by the classification society

	Memorandum	**Issue date**
1. Colombo Inspection Reports (2023.07.26 provided by Lead Shine)	(1) General examination with underwater survey （bottom inspection） to be carried out at the first convenient port and/or anchorage area not later than July 10, 2023.	2023.06.02
	(2) ISM additional audit to be carried out at the first convenient port and/or anchorage area not later than July 10, 2023.	2023.06.02

[17] The survey reports for Colombo and Kaohsiung, significant inspection recommendations, documents, and their certificates.

	Memorandum	Issue date
All certificates issued by the classification society for the ANGEL are valid.	(3) Survey for rectification of the Outstanding Recommendations to be carried out at the first convenient port and/or anchorage area not later than July 10, 2023.	2023.06.02
2. Colombo Inspection Reports (2023.09.05 provided by Lead Shine) All certificates issued by the classification society for the ANGEL are valid.	(1) Based on the surveyor report, remaining part of special class surveys, renewal statutory surveys and, the dry-dock surveys to be completed before September 30, 2023.	2023.06.02
	(2) General examination with underwater survey （bottom inspection） to be carried out at the first convenient port and/or anchorage area not later than July 10, 2023.	2023.06.02
	(3) ISM additional audit to be carried out at the first convenient port and/or anchorage area not later than July 10, 2023.	2023.06.02
	(4) ISM additional audit to be carried out at the first convenient port and/or anchorage area not later than July 10, 2023.	2023.06.02
	(5) Survey for rectification of the Outstanding Recommendations to be carried out at the first convenient port and/or anchorage area not later than July 10, 2023.	2023.06.02
3. Kaohsiung Inspection Reports (2023.09.08 provided by	(1) General examination with underwater survey （bottom inspection） to be carried out at the first convenient port and/or anchorage area not later than July 10, 2023.	2023.07.10
	(2) ISM additional audit to be carried out at the first	2023.07.05

	Memorandum	Issue date
INTLREG) All certificates issued by the classification society for the ANGEL are revoked.	convenient port and/or anchorage area not later than July 10, 2023.	
	(3) On 10 July 2023, Class Certificate was revoked due to non-fulfillment of survey recommendations imposed by survey carried out at Colombo on 02-Jun-2023.	
	(4) On 10 July 2023, Statutory Certificates were revoked as per instructions received from the flag Administration, via email message dated 10-Jul-2023.	
	(5) One 21 July 2023 the vessel sunk at Kaohsiung, Taiwan anchorage and declared Total Loss.	
	(6) One 21 July 2023 the vessel sunk at Kaohsiung, Taiwan anchorage and declared Total Loss.	2023.07.10
	(7) One 21 July 2023 the vessel sunk at Kaohsiung, Taiwan anchorage and declared Total Loss.	2023.07.10

NARRATIVE SURVEY REPORT （Remarks）	
Kaohsiung Inspection Reports (2023.08.18 provided by Chinese Maritime Law Firm)	The occasional underwater examination was carried out on 14th July 2023 while the vessel anchored at Kaohsiung Anchorage. The attendances to the vessel was made by launching boat, the examination was carried out by IACS members approved Diving firm - Golden Port Asia Co., Ltd., the Surveyor witness the examination through CCTV connected to divers' video camera. As far as can be seen, there were various damages found on ship's hull which resulted the list of ship due to water ingress. Please refer to diving report and final report for various damages details. Upon completion of the survey, an Outstanding Recommendation was given to request the completion of the damages before due to date, further the repair proposal is to be submitted for review before grew commence of repairs.

NARRATIVE SURVEY REPORT （Remarks）	
Kaohsiung Inspection Reports (2023.09.08 provided by INTLREG) (2023.09.15 provided by Lead Shine)	The occasional underwater examination was carried out on 14th July 2023 while the vessel anchored at Kaohsiung Anchorage. The attendances to the vessel was made by launching boat, the examination was carried out by IACS members approved Diving firm - Golden Port Asia Co., Ltd., the Surveyor witness the examination through CCTV connected to divers' video camera. As far as can be seen, there was no damages found on ship's hull. Please refer to diving report and final report for further details. Upon completion of the survey, an Outstanding Recommendation was given to request the official diving report.

Table1.7-3 Comparison table of the validity of the ANGEL's related certificates

No.	Name of Certificate	Issuer	Certificate Status (date obtained)					Validity Period/Note
			07/24 S5 ASIA	07/25 ZULU	07/25 Palau	08.02 Lead Shine	09/08 INTLREG	
1	C001 - Certificate of Registry	Palau	Valid	Not provided	Valid	Not provided	Suspended	2023.11.29
2	C002 - Ship Radio Station License	Palau	Valid	Not provided	Valid	Not provided	Suspended	2023.11.29
3	C003 - Minimum Safe Manning	Palau	Not provided	Not provided	Valid	Not provided	Suspended	2023.11.29
4	Nairobi International Convention on the Removal of Wrecks (C111)	Palau	Not provided	Not provided	Valid	Not provided	Suspended	2024.05.30
5	Bunker Convention Certificate (C112 - BCC)	Palau	Not provided	Not provided	Valid	Not provided	Suspended	2024.05.30
6	Certificate of Classification (COC)	INTLREG	Not provided	Not provided	Valid	Valid	Revoked	Special survey to be completed and drydocking of the vessel to be carried out not later than 2023.09.30
7	Cargo Ship Safety Equipment Certificate (S/E)	INTLREG	Valid	Not provided	Valid	Valid	Expired	Rectification of malfunction of accumulator of the rescue boat to be carried

No.	Name of Certificate	Issuer	Certificate Status (date obtained)					Validity Period/Note
			07/24 S5 ASIA	07/25 ZULU	07/25 Palau	08.02 Lead Shine	09/08 INTLREG	
								out not later than 2023.07.05
8	Cargo Ship Safety Construction Certificate (S/C)	INTLREG	Valid	Not provided	Valid	Valid	Revoked	Class special survey to be completed and bottom survey carried out not later than 2023.09.30
9	Cargo Ship Safety Radio Certificate (S/R)	INTLREG	Valid	Not provided	Valid	Valid	Revoked	
10	Dangerous Goods Regulations	INTLREG	Valid	Not provided	Valid	Valid	Revoked	2023.09.30
11	International Air Pollution Prevention Certificate (IAPP)	INTLREG	Valid	Not provided	Valid	Valid	Revoked	2023.09.30
12	International Anti-Fouling System Certificate (IAFS)	INTLREG	Valid	Not provided	Valid	Valid	Revoked	2023.09.30
13	International Load Lines Certificate (ILL)	INTLREG	Valid	Not provided	Valid	Valid	Revoked	2023.09.30
14	International Oil Pollution Prevention Certificate (IOPP)	INTLREG	Valid	Not provided	Valid	Valid	Revoked	2023.09.30
15	International Sewage Pollution Prevention Certificate (ISPPC)	INTLREG	Valid	Not provided	Valid	Valid	Revoked	2023.09.30
16	International Ship Security	INTLREG	Valid (Interim)	Not	Valid	Valid (Interim)	Revoked	2023.12.01

No.	Name of Certificate	Issuer	Certificate Status (date obtained)					Validity Period/Note
			07/24 S5 ASIA	07/25 ZULU	07/25 Palau	08.02 Lead Shine	09/08 INTLREG	
	Certificate (ISSC)			provided				
17	International Tonnage Certificate (ITC)	INTLREG	Valid	Not provided	Valid	Valid	Revoked	2023.09.30
18	Maritime Labor Certificate (MLC)	INTLREG	Valid (Interim)	Not provided	Valid	Valid (Interim)	Revoked	2023.12.01
19	Safety Management Certificate (SMC)	INTLREG	Valid (Interim)	Not provided	Not provided	Valid (Interim)	Revoked	2023.12.01
20	International Ballast Water Management Certificate (BWM)	INTLREG	Not provided	Not provided	Not provided	Valid	Revoked	2028.05.30
21	Ship Energy Efficiency Management Plan (SEEMP)	INTLREG	Not provided	Not provided	Not provided	Valid	Revoked	2028.05.30
22	International Energy Efficiency Certificate (IEE)	INTLREG	Not provided	Not provided	Not provided	Valid	Revoked	2023.09.30
23	Complies with SEEMP documents (SEEMP)	INTLREG	Not provided	Not provided	Not provided	Valid	Revoked	2023.09.30
24	Protection & Indemnity Insurance (P&I)	Hydor	Valid	Not provided	Not provided	Not provided		

1.7.5.2 Insurance Company Inspection

It was found that on June 24 and 25, 2023, T&A Marine Consultants and Surveyors Co. Ltd conducted an Entry Survey on the ANGEL in Dalian Port, China. On August 25, the investigation team obtained two reports. One is the List of Defects All Ship Types (Ship's name: ANGEL) (Appendix 8). The other is a Hydor survey report from the Protection & Indemnity (P&I) Club.

There were 24 ANGEL defect lists and records (detailed information on Appendix 8). The survey report is extracted as follows:

2. Executive Summary

The Vessel is a 2003 built, International Register of Shipping Classed and Palau flagged, six cargo holds container ship. The Vessel held Conditional Interim Class Certificates and Safety Construction Certificate. The Vessel is owned by the present Owners - NAVRAMAR Shipping INC and managed by ZULU Shipping LLC. At the time of our attendance, the Vessel was having cargo operation of loading new empty containers at Dalian, China. The Vessel was manned with 18 crew from Turkish and Azerbaijan, with Turkish Capt. Geldisen Serkan in command.

As the Vessel was purchased and acquired by the present Owners and delivered at Colombo, Sri Lanka on 2 June 2023, all crew members were engaged to familiarize with the machinery and equipment, and hence, the related onboard safety permits, risk assessments and records were still under establishment/construction. The ISM system has not yet completely established and implemented on board the vessel.

In accordance with the instructions and survey form, we conducted all necessary inspection, as far as accessible, to the areas of cargo holds No.3, 4 & 5, the wheel house, the engine room, the steering gear room, the accommodation,

and part of crew CoC, ship's certificates, logs, records, reports and documents. As the cargo operation was ongoing, the ultrasonic test for hatch covers' water tightness and internal inspection of ballast tanks were not conducted in this survey attendance.

All equipment on the Bridge was reported to be operational. However, we indeed observed desynchrony of the rudder indicators, i.e. there was apparent discrepancy between the rudder angle indicator and the mechanical angle in the steering room. Equipment and machinery in the engine room were checked and found generally in order, but with the PLC panel of No.3 diesel generator malfunctional and its starter motor was reportedly out of operation. Furthermore, no information of the running hours of the main engine and aux-engines were available on board for immediate review and inspection. We understand that some of the technical records were missing when the vessel was delivered to the new owners. As the Vessel was newly purchased and just took over, the housekeeping appeared at an acceptable level.

As accessible and visible, the Vessel appeared to be lack of necessary maintenance by her previous owners in areas like the hatch covers, cargo holds, ballast tanks, ventilation fans and transverse walkway etc. Reportedly, the Vessel is scheduled to conduct special survey, dry dock survey, necessary maintenance & repair after this voyage.

Upon completion of our survey, we had noted 22 items of defects and deficiencies and also set aside 2 outstanding items (Please refer to the signed List of Defects). All survey findings and observations were discussed with the Master and Superintendent and made them aware of the defects we have noted and finally left them with a copy of the signed List of Defects.

Based on our survey findings and having noted a number of items of defects which are likely to give rise P&I claims (leakage of ballast waters, leakage of fuel

oil to cargo holds) and taking into account of the Vessel's being just purchased and delivered, the Vessel's present overall condition is considered to be acceptable but with certain reservations.

After the inspection was completed, 22 defects and deficiencies[18] were found, and 2 unresolved items were raised (please refer to the signed defect list). All inspection results and observations were discussed with the Master and Owner's representatives, making them aware of the deficiencies we found and finally providing them with a signed copy of the deficiencies list.

Based on the inspection results and noting some defects that may give rise to insurance claims (ballast water leakage, cargo tank fuel leakage), and considering that the ship had just been purchased and delivered, the current overall condition of the ship was considered acceptable, but there were some reservations.

3. Risk Profile

The main reason that we rated the risk of the Hull Failure as 'Medium', Ballast Tank as 'High', Cargo Hold as 'High' and Cargo Damage as 'High' are that the cargo holds No.3 & 5 were observed having apparent water leakage, very likely from adjacent ballast tanks, suggesting very poor maintenance history and potential failure of structural integrity of the cargo holds, and there was also evidence of fuel oil leaking to No.4 hold from No.4 HFO (S), hence the Pollution was rated as 'Medium' , noting that crew members had already detected the source of oil leakage and were then taking remedy measures.

[18] A defect refers to failure to meet specific requirements or specifications, which affects the function or performance of the product. Deficiency refers to a lack or deficiency in a product or service that does not necessarily affect its functionality or performance.

The General housekeeping of engine room was rated as ‘Acceptable’ because the vessel was just acquired by the present Owner on 2 June 2023 and all the crew members of the Engine Department were observed to have full understanding to the importance of familiarization with the machinery/equipment and the housekeeping of the engine room was significantly improved.

We classed cargo hold fitness as ‘Poor’ as, having said above, the cargo holds were found significant water accumulation in No.3 & 5 holds, and apparent sign of fuel oil leakage to No.4 hold. We classed nautical fitness as ‘Acceptable ’as there was apparent inaccuracy of the rudder indicators, mainly that the rudder angle’s electrical indicator in the steering gear room and on the bridge were both not inconsistency with the mechanical rudder angle of steering gear, which is likely to result in misjudgement of the officers when they are maneuvering the Vessel in any restricted waters.

4.0 Shipboard Management

4.3 Comments

The Vessel is acquired by the present Owner on 2 June 2023.As scheduled, Master SMS Review would be conducted after 3 months. So far, no non-conformity report has been created since 2 June 2023.

The evidence showed that the crew had not yet perused the SMS manual that was provided on board in electronic soft copy in the ship’s lap top as the crew member seemed to have been busy and fully engaged to familiarize the operation and machinery/equipment, which is the top priority.

1.7.5.3 Flag State Inspection and Certificate Handling

According to the Deck Log (logbook) of the ANGEL, on July 10, an inspector sent by the country of registration Palau boarded the ship at 1120 hours

and left the ship at 1830 hours. This time, the results of the ship's boarding inspection by the ship's flag country raised some doubts. The excerpt is as follows:

The investigation team obtained the inspection and preliminary results of the ANGEL carried out by inspectors from the Palau on July 10 on August 8, 2023. Key excerpts of the inspection and preliminary results[19] as follows:

Part 2: Narrative Report

As per Palau flag state request. An occasional inspection was carried out on 10 July 2023 at Kaohsiung Anchorage, Taiwan. And the following defective items were verified as follows:

- Vessel had a crew change There was no implementation of PMS system onboard. (Obs No. 24)
- ISM & ISPS implantation was in progress and improvement of the SMS system was needed. (Pls refer to list of observations)-Rescue boat emergency operation remains faulty. (Obs No.16)
- Battery-operated telephone was non-operational at Bow Thruster/ Emergency Fire pump room. (Obs No.17)
- AE No.3 power Management system display was non-operational and AENo.2 power management system displayed was discovered to be non-operational too. (Obs No.18)
- Ballast water treatment system was not fitted at the time of inspection. Vessel was using Type D-1 and the BWMP was approved by ClassIRS on 03 July 2023.-EEXI Calculation and SEEMP III was not approved

[19] CL031_Narrative_Report_Checklist_v.2023.03.01.1.pdf

and was not provided onboard. (Obs No.20)

- Composite boiler was shut down and not in use. (Obs No.19)
- Emergency generator blower flap and limit switch not functional. (ObsNo.03)-Steering gear vent flap remains frozen in open position. (Obs No.04)
- Oxygen room vent flap was wasted. (Obs No.29)
- Lashing Bridges on deck remain corroded wasted. (Obs No.30)
- Water ingress inside cargo holds no.4 & 5.–No.4 cargo hold ingress water level was 3 meters and no.5 cargo hold ingress water was 1 meter. Portable pump was currently being used to pump the water out of cargo hold no 4. (Obs No.2)
- Fresh water generator was not working. (ObsNo.31)
- Fresh Water generator failure. (Observation No. 31)

Areas unavailable or not inspected: Under water hull areas, Cargo holds except for no.4 and 5, Cargo hatch cover.

Recommendation: In additional to the previous defective items, there were non-conformities being added on to the deficiencies list. Refer to part 3 list of deficiencies.

Comments or conclusions: Vessel was not in a seaworthy state at the time of inspection. Critical attention is required for the ingress of water in the cargo hold no.4 and 5 with water level up to 3 meters. Vessel had afresh change of crew and SMS implantation was still in progress. Based on listed deficiencies mentioned below, vessel was liable for PSC detention. Valve chambers are located under the cargo holds they are full of water.

Part 3: List of Observations / Deficiencies

Number	List of Deficiencies to rectify:	Rectification Date	Deficiency Category
1	Valve chambers are located under the cargo holds they are full with water.	Tuesday, July 11, 2023	03
2	Water ingress inside cargo holds no.4 & 5. – No.4 cargo hold ingress water level was 3 meters and no.5 cargo hold ingress water was 1 meter. Portable pump was currently being used to pump the water out of cargo hold no 4.	Tuesday, July 11, 2023	03
3	Limit switch for emergency generator blower flap was damaged.	Sunday, July 30, 2023	04
4	Steering gear vent flap found frozen in open position.	Sunday, July 30, 2023	04
5	Ballast remote system is not working.	Sunday, July 30, 2023	06
6	Emergency fire pump was not working, no suction from the pump.	Tuesday, July 11,2023	07
7	One light cover was found damaged	Sunday, July 30, 2023	09
8	Broken lights in no.1 cargo holds to be repaired.	Sunday, July 30, 2023	09
9	Vessel last voyage was from Dalian to Taiwan. However, there was no available navigation warning information available for this voyage. NavArea XI in force warning for this area was not maintained	Sunday, July 30, 2023	10
10	There was no UKC policy available for this vessel. UKC requirement for open waters, coastal waters, confined waters, anchorage etc. was not available in the navigational procedures.	Sunday, July 30, 2023	10
11	There was no available records of pre-arrival and pre-departure checklist for this voyage from Dalian to Taiwan.	Sunday, July 30, 2023	10
12	Master night order book was not available.	Sunday, July 30, 2023	10
13	There were no bell book records available for the engine movements.	Sunday, July 30, 2023	10
14	Sailing direction NP 32A for this port was not available. Vessel does not have her admiralty	Sunday, July 30, 2023	

Number	List of Deficiencies to rectify:	Rectification Date	Deficiency Category
	publications onboard at the time of inspection		
15	The line throwing appliances were not ready for immediate use, as they had not been armed as per the manufacturer's instructions. A sticker on the appliance's lids stated that the rockets were not armed for safety reasons during shipping but should be arm	Tuesday, July 11, 2023	11
16	Rescue boat emergency operation to be found faulty.	Tuesday, July 11, 2023	11
17	Battery-operated telephone was non-operational at Bow Thruster room and emergency fire pump room.	Tuesday, July 11, 2023	11
18	AE no.2 and No.3 power management system displays non-operational.	Sunday, July 30, 2023	13
19	Composite boiler was shut down and unoperational.	Sunday, July 30, 2023	13
20	EEXI Calculation and SEEMP III not provided onboard.	Sunday, July 30, 2023	14
21	Sewage treatment Plant internal examination to be carried out in Dry Dock	Saturday, September 30, 2023	14
22	Fuel oil Sampling point(s) for taking representative samples of fuel oil being used onboard the (in-use fuel oil) in accordance with MEPC.1/Circ.864/Rev.1 is to be fitted not later than 2023-09-30	Saturday, September 30, 2023	14
23	Familiarization forms were acknowledged by crew however the familiarization checklist were not filled.	Sunday, July 30, 2023	15
24	There was no implementation of PMS system on board.	Sunday, July 30, 2023	15
25	No security drills being carried out since vessel taken over.	Sunday, July 30, 2023	16
26	Table of working arrangement for deck and engine crew not available.	Sunday, July 30, 2023	18
27	For the month of June 2023, the work rest hour	Sunday, July	18

Number	List of Deficiencies to rectify:	Rectification Date	Deficiency Category
	records for the engine department was not available. Deck department work rest hour was available for June 2023 however during abandon ship drill on 04 June 2023, crew (2nd officer, 3rd officer and AB) attend	30, 2023	
28	Oxygen/ explosive meters not available onboard.	Sunday, July 30, 2023	99
29	Oxygen room vent flap was wasted.	Sunday, July 30, 2023	99
30	Lashing Bridges on deck remain corroded wasted.		06
31	Fresh water generator was not working.	Sunday, July 30, 2023	09

On October 24, 2022, the TTSB held a video conference with Palau flag state representatives, and Taiwan's MPB, MOTC to discuss issues relating to the ANGEL and the following conclusions were reached:

(1) The Palau flag state did not receive the email[20] sent by Norwegian Hydor Insurance Company on August 17, 2023, on behalf of the Norwegian law firm Wikborg Rein. Afterwards, He/She learned about this document from the TTSB.

(2) Before the ship owner was changed, the ANGEL had two classification societies, namely DNV and Indian Register of Shipping (IRS). After changing to a new ship owner, the classification society of ANGEL was International Register of Shipping (INTLREG). INTLREG is a classification society recognized by Palau Ship Registry.

(3) P&I's insurance company (Hydor) carried out boarding inspection of the ANGEL. The insurance company was not obliged to report the inspection results to the flag state. The insurance company's survey

[20] Document No. 526492-104。

report should be obtained from the ship owner and ship management company.

(4) On July 10, 2023, the flag state sent an inspector to the ANGEL to perform inspections. Based on the inspection results on that day, the flag state sent an email to notify ZULU to immediately suspend all certificates of the ANGEL (Appendix 9). The flag state did not use the word “revoke”. The flag state has not provided any comments on the claims and legal terms presented by the lawyers of ANGEL's Protection & Indemnity (P&I) Insurance Company.

1.7.5.4 Insurance Certificate of the ANGEL

The investigation team obtained information from Hydor Insurance Company; it was found that on August 17, 2023, the Norwegian Hydor Insurance Company commissioned the Norwegian law firm Wikborg Rein to send an email to our country's maritime port authority. The key information is extracted as follows:

3. The ANGEL’s Insurance Application Inspection and Cancellation of Insurance

The vessel was described by the owners as having class with an IACS classification society (which later proved to be untrue).

… (skip)

The June 28, 2023 policy was re-issued with a defect warranty[21].

[21] (According to Condition Survey dated 24–25 June 2023, based on findings and information, there shall be no cover under this Policy caused by or arising from deficiencies found and described in the Survey Report. This Deficiency Warning will stay valid until all deficiencies detected in the Condition Survey to be carried out are fully rectified." (our emphasis)

… (skip)

The June 28, 2023 policy was re-issued[22] with a defect warranty on July 7, 2023, and the insurance period was modified to end on July 21, 2023.

4. There is no Insured Cover

4.3 Hydor has formally rejected cover

On August 8, 2023, Hydor formally informed the owners that cover was rejected.

4.4 No Insurance cover because the insurance contact is void and invalid

… (skip)

It is a matter of serious concern that our clients were induced into insuring an unseaworthy vessel where material information was not provided to them and on stead kept from them.

4.5 No Insurance cover because the vessel lost class on July 7, 2023

The investigation following the sinking has shown that the vessel's class certificates were revoked on July 10, 2023.

---

[22] "Unfortunately, the condition of this vessel is so bad that we have decided to terminate cover." Please be aware of the defect warranty imposed in the policy." As a result of the termination, the policy dated 28 June 2023 was reissued on 7 July 2023 with the amendment that the insurance period ended on 21 July 2023. The policy has subsequently been reissued again to correct errors that have been discovered in the previous policies.

1.8 Voyage Information

1.8.1 Voyage Data

Before the ANGEL arrived at the anchorage area of Port of Kaohsiung, the previous port was Dalian, China, where empty containers were loaded. According to crew interview records, the destination port was Tallinn, Estonia.

1.8.2 Loading Condition

The ANGEL is an all-container ship with a maximum loading capacity of 1,541 TEUs. Upon its arrival at the Kaohsiung Port anchorage, it was carrying 1,349 empty 20-foot high containers. The cargo loading plan (Stowage plan) declared the unloading port as LED (St. Petersburg, Russia). According to crew interviews at the time of the accident, the draft was 6.3 meters at the bow and 9.8 meters at the stern.

1.8.3 Ship Stability Information

On September 8, 2023, the special investigation team acquired the stability information of the ANGEL. Upon comparison, it was discovered that the first officer of the ANGEL added 4,400 tons of cargo weight and made assumptions about the weight of certain water tanks in order to adjust the draft of the ANGEL to align with the actual conditions. The calculation results indicated that the ANGEL tilted 16.1 degrees to the starboard side, which differed from the actual conditions during anchoring from July 10 to July 16.

1.9 Kaohsiung Port Vessel Traffic Service and Anchorage Area Management

1.9.1 Kaohsiung Port Vessel Traffic Service

Kaohsiung Port is divided into the First Harbor and Second Harbor by the Qianzhen River. The First Harbor is located to the north of the Qianzhen River, while the Second Harbor is situated to the south. The Port of Kaohsiung's Traffic Separation Scheme and Anchorage Area are located outside the port, as depicted in Figure 1.8 - 1. The Kaohsiung Vessel Traffic Services Center (hereinafter referred to as Kaohsiung VTS) is operated and managed by the Vessel Traffic Service Section, Harbor Management Department of Kaohsiung Port of TIPC, and is responsible for providing vessel traffic services for Kaohsiung Port. When communicating with ships outside the port, the commonly used radio call sign is “Kaohsiung VTS.”

The Kaohsiung VTS divided into “Vessel Information Service (VIS)”, “VTS North (First Harbor) Sector”, and “VTS South (Second Harbor) Sector”. The VIS operator is responsible for ship-shore ship-shore port radio communication, reporting ship emergency rescue events, inputting ship arrival data, dynamically reporting typhoon warnings, and monitoring ship movements. The VIS operator was responsible for communication between Kaohsiung VTS and the ANGEL.

According to the communication records of Kaohsiung VTS, it was not until 10:58 on July 18th that the captain of the ANGEL reported to Kaohsiung VTS that there was water in the cargo hold and that the ship was tilting to the starboard side while anchoring at the second anchorage area in Kaohsiung Port[23].

[23] VTS VHS Transcripts: MV ANGEL:….***we have the water inside….of the tank, they continue …actually we have….to starboard.

1.9.2 Anchorage Area Management and Relevant Regulations

The anchorage area of Port of Kaohsiung is divided into four areas, as shown in Fig. 1.9-1, which are the first anchorage area, the second anchorage area, the third anchorage area, the fourth anchorage area and the special anchorage area for dangerous goods ships. Investigation showed, from July 4th to July 20th, the ANGEL anchored on the west side of the second anchorage area and was on standby.

The scope of the second anchorage area is the water area surrounded by the following four points[24] in sequence. It is mainly used for anchoring of ships (excluding dangerous goods ships) entering and leaving a port.

[24] A1 22°38'36", 120°14'59"; A2 22°39'54", 120°12'42"; A3 22°38'40", 120°12'40"; A5 22°37'15", 120°15'25"

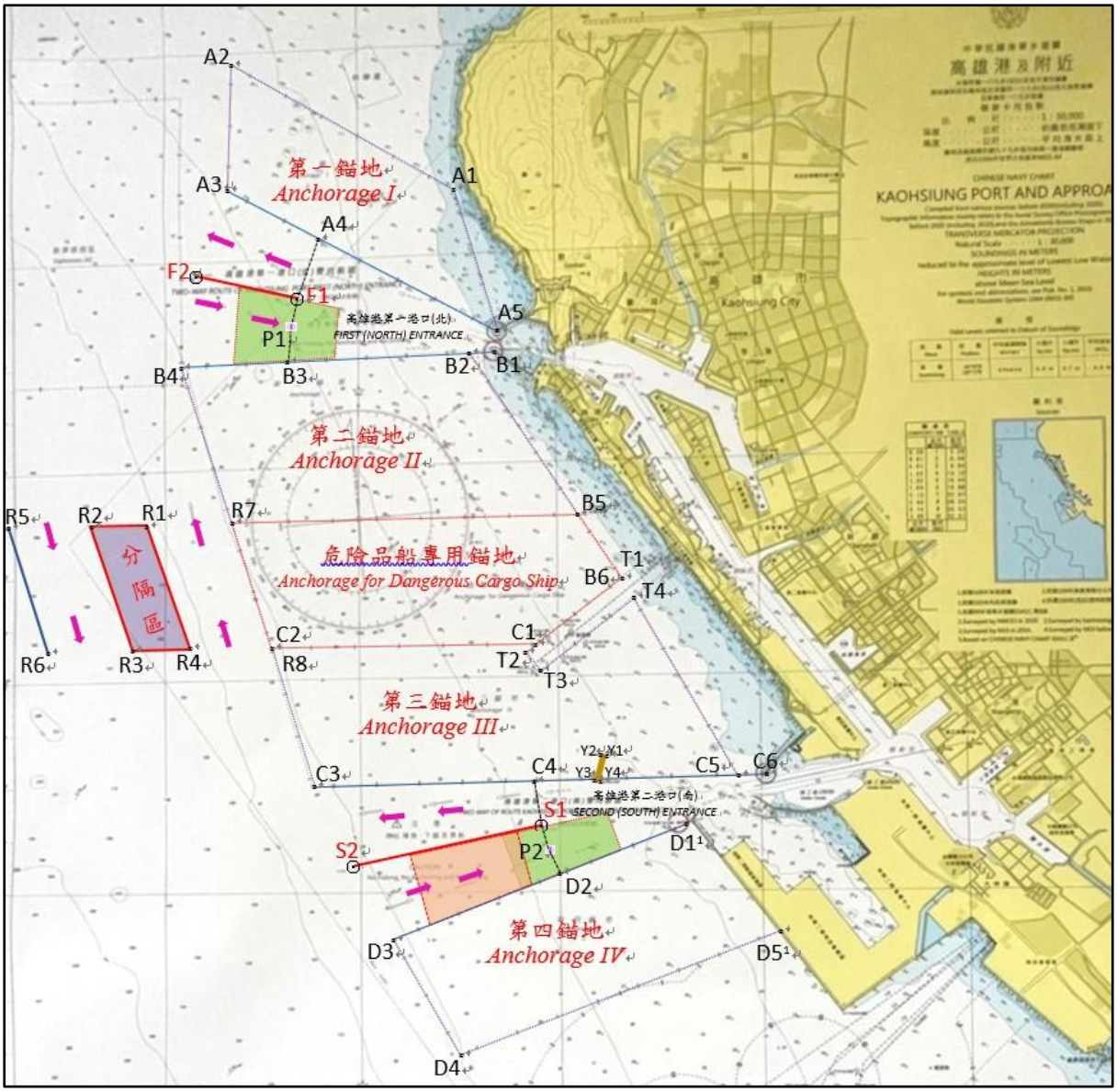


Figure1.9-1 Port of Kaohsiung Traffic Separation Scheme and anchorage configuration diagram

Port of Kaohsiung, Taiwan International Ports Corporation, Ltd. (hereinafter referred to as TIPC) announced the “Regulations Governing the Anchorage of Vessels in Kaohsiung International Commercial Port, Taiwan International Ports Corporation, Ltd. " on January 28, 2019. The application for anchoring includes: “Inbound Vessels”, “Outbound Vessels”, “Vessels that shift berth” and “Anchor on arrival”; the applicable objects of “Anchor on arrival” are: Vessels do not enter or leave Kaohsiung and only stay briefly in the anchorage area to meet operational

needs, such as water supply, repair, crew change, standby, etc. Ships can apply for permission through the "Anchoring Application Form (IFA_A051)" of the “Taiwan Port Network (TPNET)” according to their anchoring needs. ANGEL’s hipping agency submitted the application at 1527 hours on July 4, 2023. According to Kaohsiung VTS records, at 2154 hours on July 4, 2023, and the ANGEL completed anchoring at 2046 hours.

錨泊申請單(IFA_A051)

本公司代理之船舶預計抵達高雄港錨區停留，停留錨地期間僅遵守港務當局等各項規定並且由本公司負擔一切相關之責任以及依「高雄港錨泊管理費方案」計收費用，
錨泊管理費方案PDF檔(高雄港錨泊管理費方案.pdf)

錨泊申請單			
簽證編號	XKHH112000659	序號	1
船舶號數			
拋錨類別	到港下錨	船舶呼號	T8A4295
中文船名	天使	英文船名	ANGEL
船舶種類	請選擇	船舶總長	172.00公尺564.16英尺
船舶國籍	請選擇	總噸位(T)	16145.00噸
國際海事組織號碼	9256406	實際最大吃水	9.100公尺30英尺
預計錨泊時間	2023/07/05 06:00	預計離開時間	2023/07/06 17:00
是否有船舶自動識別系統	是	是否有危險品	否
最近一次停泊於高雄外錨地日期(無則免填)		申請事由	待命
地點	第一港口外	其他原因	
		等待裝卸碼頭	請選擇
已申請優先靠泊	請選擇	非入港船申請前6或24小時定額錨泊費	是
申請日期	2023/07/04 15:27	港代理	香港商伍航亞洲有限公司台灣分公司

「拋錨類別」如有變動，如「進港下錨」改「到港拋錨(不進高雄港)」、或「移泊下錨」改「離港下錨」...，
請另新增一張申請單並通知信號台。

Figure1.9-2 Record of the ANGEL’s application form in the Port of Kaohsiung Anchoring System (IFA_A051)

1.10 Relevant Recorder Information

After the occurrence happened, the investigation team obtained the AIS track data of the ANGEL (see section 1.10.1 for details).

In accordance with the International Convention for the Safety of Life at Sea (SOLAS), the ANGEL’s shall be equipped with a Simplified Voyage Data

Recorder (S-VDR). On August 18, 2023, Seagreen Enterprise Company retrieved the S-VDR from approximately 37 meters underwater at the sinking site of the ANGEL. On August 19, the company handed over the S-VDR to the investigation team for processing and interpretation (see section 1.10.2 for details).

1.10.1 AIS Track Information

Figure 1.10-1 shows the AIS track[25] of the ANGEL occurrence voyage. The recording time included the period from 0023 hours on June 25 to 2309 hours on July 20. Important changes in the ANGEL's sailing track are excerpted below:

- Between 0010 hours and 0330 hours on June 28, the ANGEL turned to sail north and stopped its main engine for maintenance. The reference ship position was along the east coast of Ningbo, China, and the ANGEL drifted in the East China Sea.
- Between 0230 hours and 1400 hours on June 29, ANGEL turned and sailed westward to leeward to anchor and stop for more than 10 hours to repair the main engine. The reference ship position was along the east coast of Taizhou.
- At about 1125 hours on July 1, the ANGEL sailed southward through the waters on the west side of Dongyin Island.
- At about 2313 hours on July 1, the ANGEL turned westward toward the center line of the Taiwan Strait.
- At approximately 0600 hours on July 2, the ANGEL entered Taiwan's 12 nautical miles territorial waters.
- At approximately 1950 hours on July 4, the ANGEL adjusted its course

[25] Source: SHIPXY website.

and speed and sailed to the No. 2 Anchorage Area of Port of Kaohsiung.

- At about 2154 hours on July 4, the ANGEL reported the anchor position to Port of Kaohsiung VTS.
- At 2205:30 on July 20, the last ship position information of the ANGEL.

Figure1.10-1 AIS track data of the ANGEL occurrence voyage

1.10.2 S-VDR Data Information

The ANGEL was equipped with a S-VDR, manufacturer Kelvin Hughes, model MDP A5, production number SM502209, the latest inspection qualification record was May 30, 2023. Its original data was saved in a Crash survivable module (CSM), manufacturer L3 Harris, part number SVR03-009-20,

serial number 000501373. According to the ANGEL's annual performance test report[26] provided by the original manufacturer, this ship's VDR recorded 3 bridge sounds, 12 parameter data[27], and radar/AIS data, the length of downloaded data during the detection period was more than 14 hours.

The investigation team obtained the S-VDR on August 19, 2023, and no physical damage was found during the visual inspection (Fig. 1.10-2). After the VDR was disassembled, the memory module was removed, the CSM circuit board was cleaned and dried, and the CSM circuit board was inspected through a microscope and confirmed to be intact (Fig. 1.10-3).

The special investigation team personally sent it to the UK Kelvin Hughes Company and obtained technical assistance from the British Marine Accident Investigation Branch (MAIB) to download the original VDR data (Figure 1.10-4). The ANGEL VDR recording data length is 23 hours, 50 minutes and 20 seconds (from approximately 2327:46 on July 19 to approximately 2318:06 on July 20, Taiwan time).

The investigation team compiled transcripts related to this occurrence based on the audio data, which included radio communication records between the ANGEL and Kaohsiung VTS controllers, crew communication of the ANGEL, and bridge alarms. The results are in Appendix 11.

[26] annual performance test report (test date: 2023/may/31)

[27] Date, time, longitude, latitude, course over ground, ship heading, speed over ground, speed over water, UTC time difference, number of GPS satellite observations, GPS satellite observation accuracy attenuation factor, GPS satellite antenna height, etc

Figure1.10-2 Visual inspection of appearance of S-VDR CSM

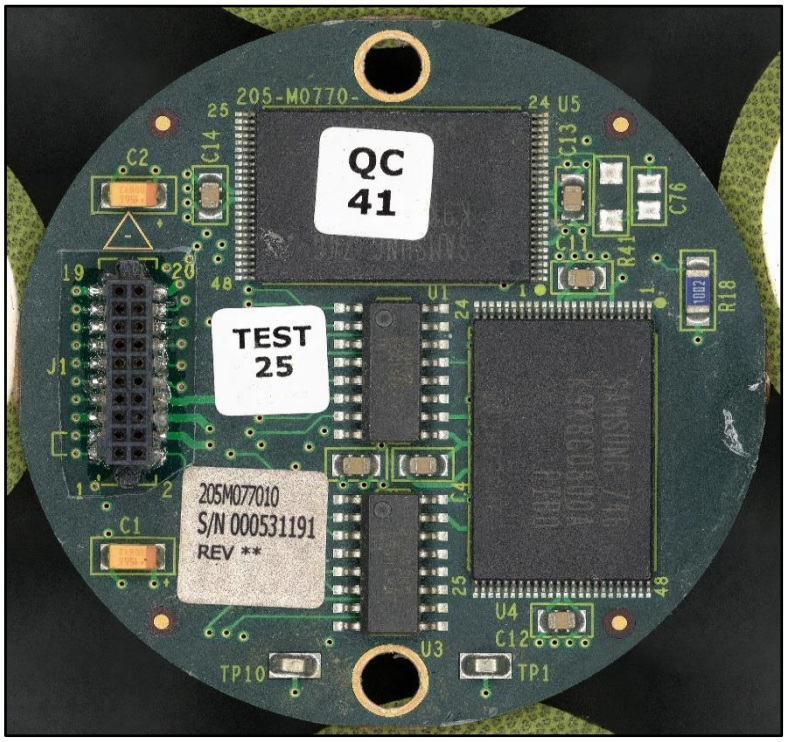


Figure1.10-3 Microscope inspection of the S-VDR CSM memory circuit board

Figure1.10-4 S-VDR CSM memory download wiring condition

1.11 Interview Summaries

According to the crew list, the crew of the ANGEL comprised Azerbaijani and Turkish nationals. On July 8, the owner of the ANGEL replaced 7 crew members, including the Master (hereinafter referred to as M-1) and the first officer (hereinafter referred to as C/O-1), at the anchorage area of Port of Kaohsiung. The owner also arranged for 8 more Azerbaijani crew members to come onboard, including the Master (hereinafter referred to as M-2) and first officer (hereinafter referred to as C/O-2). Apart from the Master (M-2) and first officer (C/O-2) who could communicate in English, the other crew members of the ANGEL spoke Turkish or Russian.

On July 24, the investigation team interviewed the Master (M-2), first officer (C/O-2), second officer, third officer, chief engineer, and 2 ABs of the ANGEL in Kaohsiung, a total of 7 crew members. Additionally, from July 25 to July 31, investigation team continued to communicate and make inquired with the first officer (C/O-2) and second officer of the ANGEL through the WhatsApp social media, based on multiple photos and videos provided by the crew.

During the investigation of this case, the investigation team contacted the

owner of ANGEL, the receiving Master (M-1), and the first officer (C/O-1) by email but received no response. On July 25th, the investigation team received a letter of complaint from a surveyor regarding C/O-1 of the ANGEL. The investigation team contacted the ANGEL's management company by email, and the company responded and provided relevant documents on September 8th. Additionally, members of the investigation team participated in many interviews conducted by the MPB with crew members of the ANGEL. The summary of interviews with relevant crew members is as follows.

1.11.1 "PAN PAN" Letter from the Ex-Chief Officer of ANGEL

On June 29, 2023, the C/O-1 of the ANGEL reported relevant deficiencies of the ANGEL to the Maritime & Port Authority of Singapore and the International Transport Workers Federation (ITF) via email. The original email is in Appendix 1. Key excerpts and English back translation are as follows:

I am a chief officer of my angel with ex name SSL GANGA . IMO 9256406. The vessel change owner on 30.05.2023. All crew joined to vessel on 30.05.2023 in Colombo anchorage. There was no pre-inspection carried out before the vessel owned. There was no familiarization, no hand over notes. The systems that they tell us working, actually not working. There are so many problems on this vessel but the main problem is the ship always list side to side by herself and we still don't know why. (I assume there is a hole on the hull) When list exceed 6-7 degrees we make ballast to other side. Ballast remote system is not working. Crew and me always go to the valve chambers and open-close valves manually. Valve chambers are located under the cargo holds they are so small and full with water inside. No matter what time it is we go to valve chambers and come back to pump room and start to make the vessel upright. Also there are many holes in the tank tops. Also there are holes on the tank tops in the cargo holds.

When we take ballast, the water come inside the cargo holds. This is also serious problem. There are so much water in no3 and No4 cargo holds now. Also so many problems in engine room. Boiler is burned. We are using funnel boiler now. Funnel boiler has too much leakage and it consumes great amount of fresh water every day. ….(skipped) Day by day another problem being occurred. Also gm is another problem. Without ballast our gm is so low. SO OUR LIVES ARE IN DANGER. PLEASE HELP US.

1.11.2 Master of ANGEL (M-2)

The interviewee, an Azerbaijani national with 11 years of seaman experience and about 3 years as Master, holds a certificate of competency and an approval certificate from Azerbaijan. He joined the ANGEL as Master (M-2) on July 8, 2023. During a brief conversation with the previous Master (M-1), he learned about water in some cargo holds. However, there was no thorough handover, lacking information about the charterer and documentation. The ANGEL's last port call was in Dalian, China, and the most recent flag state inspection occurred on July 10, 2023. The date of the last port state inspection remains unknown.

After the interviewee took over the ship, all crew members got along peacefully and with mutual respect. Most of the time, the interviewee and the chief officer, second officer and third officer took turns on duties at bridge.

The interviewee stated that it was the first time working for NAVRAMAR and had no comments about the company. It was the first time working for ANGEL’s management company ZULU Shipping. There were ISM documents on board and the company did not perform an audit; they did not know the owner and the contact information, who the owner of the cargo is or whether the ANGEL has undergone major modifications recently.

The interviewee, who recently joined ANGEL as Master, revealed a lack of

knowledge about several critical aspects of the vessel's condition and recent activities. He was unaware of the ANGEL's draft, cargo, and ballast water conditions at its previous port in Dalian. He also did not know if the ANGEL had encountered any collisions with rocks, obstructions, or other ships during its voyage from Dalian. Furthermore, he was uncertain about when water ingress into the hull was first detected and whether the main engine, auxiliary engines, and steering gear were inspected and tested before departing from the port. Additionally, the interviewee was not informed that the ship's Protection & Indemnity (P&I) insurance company had dispatched personnel embark the ANGEL at Dalian Port for an inspection. He disclosed that the ANGEL was carrying 1,349 empty 20-foot containers on this voyage, with 902 containers on the deck and 447 in the cargo hold. The ship was scheduled to arrive at its next port in Singapore on July 4th.

The interviewee stated that the shipowner's representative brought 8 new crew members onboard the ship on July 8. The shipowner's representative told him that he would arrange for divers to perform underwater surveys. After boarding the ship, he found something strange in the hull and thought there might be holes in the hull, rusty decks, rusty hatch covers, and no sealed compartments or cargo holds. At that time, the cargo hold of the ANGEL was flooded with water. The water came from the No. 5 and No. 6 ballast tanks at the bottom of the ship (Note: The interviewee mentioned in the first interview that the water came from the No. 4 and No. 5 ballast tanks at the bottom of the ship); many pipelines were damaged, and the water depth of the ballast water tank was only approximate. The crew was unable to conduct a comprehensive and appropriate water depth measurement of the ballast water tank. The interviewee instructed the crew to check the water level in the cargo hold and mark it. After the inspection, he reported 12 deficiencies to the company, including:

(1) Inability to accept ballast due to inoperative ballast system (Includes all

ballast system valve, pneumatic system, anti-heeling system and etc.)

(2) Unpumped water in cargo holds. (cargo hold no.3 is 0.5 meters; no.4 is 4-5 meters; no.5 is 4-5 meters; no.6 < 1.0 meters)

(3) Multiple leaks in ballast and cargo tanks. Also, a leak from a fuel tank to an adjacent ballast tank.

(4) Probable hull holes.

(5) Rusty hold hatch covers and foundation, which can lead to loss of cargo during roll

(6) Non-working boiler

(7) Not cleaned MGO tanks

(8) Non-working compressor and additional 2 which need to overhaul

(9) IFO and LO separators which need to be overhauled.

(10) All coolers LT, HT, LO need to be cleaned

(11) EMG fire pump, main fire pump, bilge pump needs to be repaired

(12) Stucked starboard anchor/portside windlass brake pads.

There was a Ship Flooding Muster List posted on the ANGEL. Crew members were supposed to carry out emergency procedures in accordance with the Flooding Muster List. The ship has sunk and the Ship Flooding Muster List cannot be provided. The ANGEL had two ballast pumps (ballast pumps) in the engine room for discharging ballast water. Four to five days before the accident, the company provided four submersible pumps. Nearly all of the ANGEL's ballast water valves were inoperable (flooded), the pneumatic systems were inoperable, and the anti-rolling system was inoperable.

The interviewee stated that the flag state dispatched a surveyor embark for inspection on July 10, 2023. The survey report was given after the fact, and the specific date was forgotten. On July 14, 2023, divers from Chen Chian Marine Engineering Co. LTD performed an underwater survey, trying to find whether there were holes or cracks in the underwater part of the hull. Due to weather conditions and the double hull, the divers were not able to complete all underwater surveys. On July 14, the INTREG classification society also dispatched a surveyor embark the ship, but the surveyor did not give any instructions.

On July 17, the interviewee informed ZULU of the current situation of the ANGEL and requested emergency port entry. The company has also contacted the shipping agent (S5). On July 18, he received notice from the shipping agent (S5) that it took 3 to 5 days to process. On July 18, the interviewee formally used email to directly contact the shipping agent, requesting emergency entry into the port. Unfortunately, the shipping agent took no further action.

The interviewee stated that at 0547 hours on July 20th, 2023, the ANGEL generator failed for the first time, and power was restored at about 0630 hours. The respondent responded to the VTS call and informed VTS that there was water inside the cargo hold and the water line was stable "*have a water inside the cargo hold and our situation is critical but water level stable*". When the generator failed for the second time at 0830, the crew was unable to restore power. The generator failure was unable to pump out the water in the cargo hold, causing the ANGEL to tilt and sink.

On the day of the occurrence, the interviewee contacted the shipping company by phone, announcing MAYDAY and deciding to abandon the ship because the ANGEL was tilting severely to the portside. Before abandoning the ship, the ANGEL was tilted 16 degrees to the portside. The crew could not stop

the tilt because of water ingression due to ballast problems. Unable to pump out water (we can't pump out water due to ballast), the respondent gathered the crew and abandoned the ship after making safety preparations. The GM of the ANGEL was lower than the required minimum, and the GZ range between 30 and 40 was also lower than the required value. Since the ANGEL was fully loaded, the crew could not accurately obtain the roll angle when the ship capsized. In order to avoid casualties among the crew, the interviewee decided to abandon ship. The time to abandon ship was announced at 1000 hours on July 20th. Deck Log Book and Engine Log Book were carried when abandoning ship. During the process of abandoning the ship, the chief engineer's hand was slightly injured and there was no oil leakage.

The interviewee stated that he would ask the crew and collect relevant photos, and then send them to the investigation team via WhatsApp. He honestly reported all ship defects to the company and shipping agent. During the first interview, he said did not receive any notification from the shipowner or ZULU that the ship’s related certifies had been suspended, during the last interview (July 31), he changed his statement. He had seen documentation of the ANGEL ‘s certificates being suspended 1 to 2 days before the occurrence.

The interviewee believed that the main cause of this occurrence was the technical defect of the ANGEL that caused the accident, and the second reason was the lack of proper maintenance of the ANGEL.

1.11.3 Chief Engineer of ANGEL (C/E-1)

The interviewee stated that he is a national of Azerbaijan, holds a certificate of competency and an approval certificate from Azerbaijan, has about 31 years of sea service experience, and has been serving as chief engineer (C/E) for about 23 years. On May 24, 2023, he served as chief engineer of the ANGEL.

According to the interviewee, the ANGEL had one main engine MAN B&W 6S60/MC-C and three auxiliary engines MAN B&W 6L28/32H. He did not know the latest port state control inspection, and the management company did not have an internal audit; after taking over the ship, the flag state and insurance company (P&I) had boarded the ship for survey, he did not know the specific survey time and location; ANGEL owner is NAVAMAR; management company is ZULU, classification society International Register. ISM documentation was available on board; no contingency plan for cargo hold water ingression was seen.

The interviewee stated that after boarding the ship, he discovered the condition of the hull and provided photographic evidence (Attachment 1, a total of 11 photos and 7 videos), including: 1. The auxiliary boiler was in poor condition; 2. The air starter of the No. 3 auxiliary engine failed. ; 3.80% of the lights on the ship need to be replaced; 4. One ballast pump (ballast pump) was good, but the effective capacity of the other one was reduced and needed repair. The ballast water system and seawater related valves needed repairs, most of which needed to be replaced. We were informed that we would be heading to the shipyard for repairs and overhaul in the near future. The boiler was not used to heat the heavy oil when the main engine is shut down. The Master (M-2) has been asked to report to the company for repairs. The company responded that repairs will be carried out after cargo discharging.

On June 5, the auxiliary boiler failed while the ANGEL was in Sri Lanka. After arriving at the Kaohsiung anchorage, the main generator on the ship was used, using IFO fuel. The normal temperature of the fuel was set to 70°C (Settling tank), 80°C (daily tank), and 115°C (main engine inlet).

The interviewee said that about 10 days after sailing from Sri Lanka, the crew visually discovered that about 0.5 meters of water had entered the cargo hold for the first time. At that time, the water had not yet flooded other cargo

holds. The crew used ballast pumps to pump out water. Around June 19 and 20, the Master (M-1) reported the ship's condition to the management company via email and phone. At that time, the engine room was not flooded.

Before departing from Dalian on June 25, the interviewee supervised the main engine, auxiliary engine, and steering gear tests by the engineer, and the results were all normal. 2 pumps, 1 emergency pump, and 3 starters all tested normal and there was no problem; at that time, the auxiliary boiler and No. 2 air compressor needed repairs. The interviewee did not know where the hull of the ANGEL was cracked (crack). The water intrusion may have come from the ballast water system or the hull of the ship was damaged. The interviewee stated responsibility was to ensure that the ballast water pumps were working properly and that ballast water system operation was the responsibility of the deck department.

The interviewee said that on the way from Dalian to Kaohsiung, the jacket of the 4th cylinder of the main engine ruptured and it drifted for about 34 hours at sea for repairs. The ANGEL did not hit rocks, obstructions, or other ships during its voyage from Dalian. The crew could not verify the valve status of the ballast water system. All underwater surveys were scheduled in Kaohsiung but could not be completed.

The ANGEL did not use diesel when it docked at Dalian Port. Because the docking period was only one day, the heavy oil in the oil supply pipeline could still maintain a certain temperature. Therefore, the interviewee decided to continue to use heavy oil to supply the generator operation while it was in the port. The economizer function was normal, so the economizer could be used to heat heavy oil for use by the generator and the main engine during navigation. However, when the main engine was shut down for too long, the heavy oil could not be heated by the economizer, and the oil temperature would continue to drop,

causing the heavy oil viscosity to become excessive and unable to be used by the main engine and generator. At this time, diesel oil was used instead.

On July 2nd, the ANGEL sailed to the Port of Kaohsiung anchorage. There was no anchorage at the port on July 2nd, and she waited until July 4th to anchor. The interviewee said that the temperature of the heavy oil began to drop during this period. By the afternoon of July 12, the generator's oil supply was switched from heavy oil to diesel. The crew found sludge at the bottom of both sides of the MGO daily tank, which may have been caused by mixing with HFO fuel, ultimately leading to generator failure. On July 14, 2023, the underwater survey of Chen Chian Marine Engineering Co. was not completed due to strong currents and winds.

The interviewee said that while at Dalian Port, water entered the cargo hold but not the engine room. Regarding the water pump problem, when the ANGEL was in Dalian, the shipowner sent 4 submersible pumps to the ship to pump out the water in the cargo hold. However, 3 of them broke before arriving at the Kaohsiung anchorage, and only 1 was left operational, which was placed in NO. 4 chambers to pump water; on July 14, the shipowner sent another 4 submersible pumps to the ship, but they were not used.

The interviewee said that at about 0545 hours on July 20, the generator suddenly tripped and the power was restored at 0620 hours. After inspection, it was found that the oil supply pipeline was full of sludge and oil residue. The interviewee judged that this phenomenon was due the mixture of heavy oil and diesel in the pipe producing a large amount of sludge, so the interviewee led engine room personnel to clean all the fuel filters in the fuel supply pipeline. After cleaning, the generator was restarted and it ran normally. However, after the generator had been running for about an hour (About 0830 hours) the power tripped again. After inspection, the interviewee found that the oil supply pipeline

was again blocked by sludge and oil residue.

The emergency generator was started after two power outages, but the emergency switchboard was not designed to supply power to the ballast water pump. The auxiliary engine could not be restarted, but the emergency generator operated automatically. During the power outage, many alarms were triggered in the engine room, and these alarm records went down with the ship. The problem was immediately reported to the Master (M-2) who stated that it could not be solved; if the generator could not be started, the ballast pump could not be used, and there was no other way to adjust the balance of the ship. The Master notified all relevant units, but the ANGEL tilted further. At about 0945 hours, the Master (M-2) gave the order to abandon ship. All crew members began abandoning ship at 1000 hours.

The interviewee stated that there was no handover, and he did not know the structural condition of the ANGEL's hull; did not know why water entered the ship; didn’t know if the ANGEL had undergone major modifications recently; didn’t know about the ANGEL’s docking repairs and hull maintenance. The interviewee believed that the shipowner recently purchased the ANGEL and the management company had tried its best to eliminate problems; the Master (M-2) also informed all units about the conditions of ANGEL. This situation could have been avoided. The main cause of this accident was water entering the hull of the ANGEL.

1.11.4 Chief Officer of ANGEL (C/O-2)

The interviewee stated that he was a national of Azerbaijan, holds a certificate of competency and an approval certificate from Azerbaijan, has served as a seafarer for 14 years, and has served as a ship's officer for 3 years. On July 8, 2023, he began to serve as the chief officer (C/O-2) of the ANGEL. He and the

former C/O-1 handed over in an emergency. The ANGEL came into port for maintenance. He inspected the ship with the former chief officer (C/O-1), and the former C/O-1 showed all the problems. During the handover, he learned that the parts that needed to be repaired included: the automatic ballast system on the deck; the remote valve control system; the holes in the cargo hold, and the starboard anchor.

The interviewee stated that when he boarded the ship on July 8, the cargo hold of the ANGEL was already flooded with water. The manhole covers of the ballast water tank in the 3rd cargo hold had not been closed, but the water intrusion had not worsened and the height was maintained at about 50 centimeters; the 4th and 5th cargo holds were flooded with about 4.5 meters of water; the 6th cargo hold was flooded with water to about 15 centimeters; the test result was fresh water. The interviewee stated that he used the TaskMaster program to simulate the stability of the ANGEL on July 16 (Appendix 7), and it was found that the stability was insufficient, and informed to the Master (M-2). The ANGEL's hull tilted both port and starboard side, and the No. 6 wing tank (port and starboard) was required to maintain the hull's balance.

During the interview, the interviewee presented water depth data of the ballast water tank (Fig. 1.11-1, obtained on July 24, 2023). The water measuring pipes in many places on the ANGEL were blocked due to blockage. The measurement data of the ballast water may be inaccurate. Some water tanks without water measurement records (Fig. 1.11-1 noted as "broken") were mostly water tanks that could not be measured or were inaccurate. Many pipelines were damaged, and the water depth of the ballast water tank was only approximate. The crew was unable to fully measure the water depth of the ballast water tank.

The interviewee stated that at 0547 hours on July 20, 2023, the ANGEL lost power for the first time and immediately notified VTS; the last time it lost power

and could not be restored, the shipowner was notified, and the shipowner responded (they accepted the information).

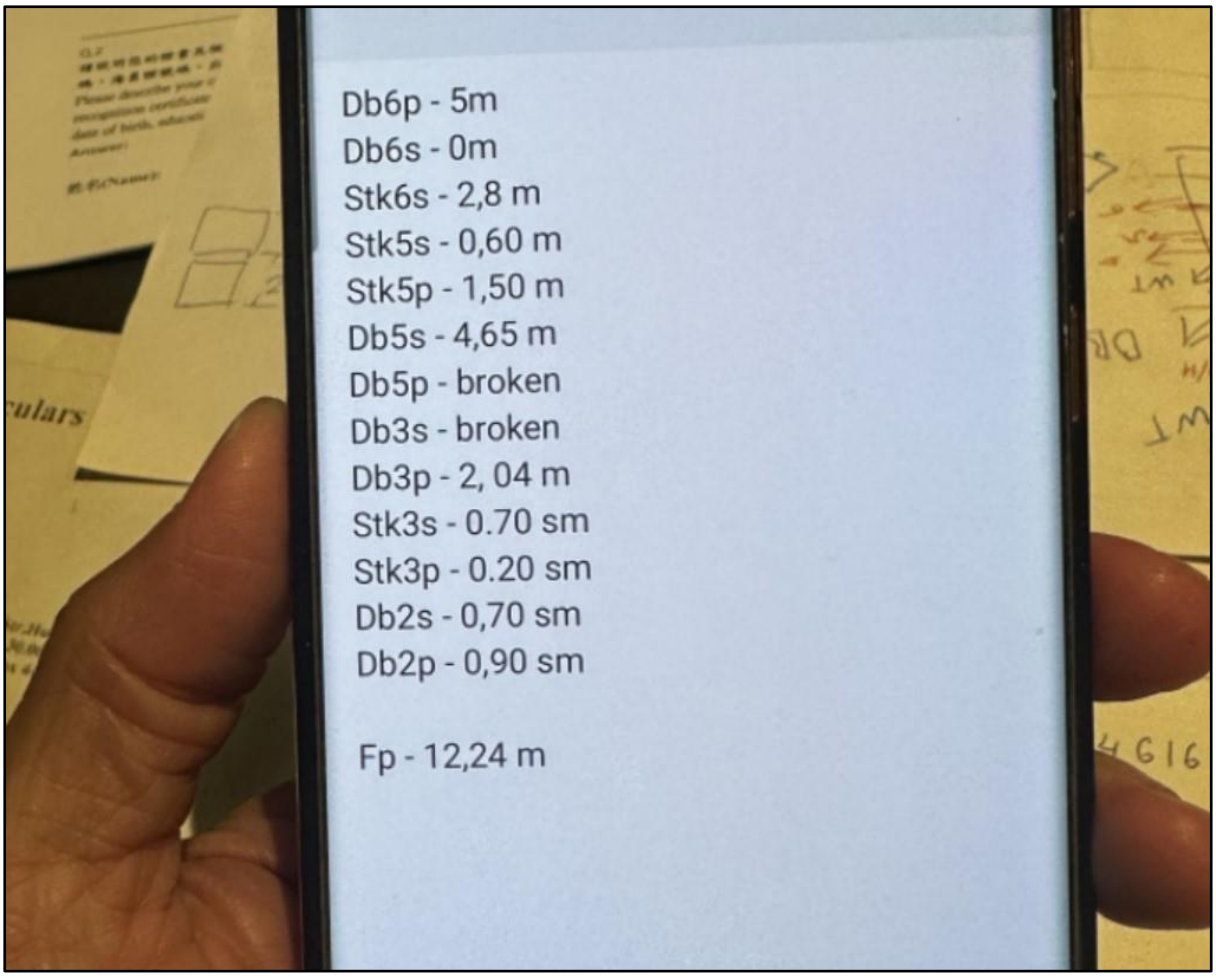


Figure1.11-1 Water depth data on the ANGEL's ballast water

1.11.5 3rd Officer of ANGEL

The interviewee stated that he is a national of Azerbaijan, holds a certificate of competency and an approval certificate from Azerbaijan, and has served as a seafarer for 5 years. On May 30, 2023, he began to serve as the third officer (3/O) on the ANGEL. When picking up the ship, the interviewee did not hand over with the previous third officer. At that time, he found that some navigation instrument could not operate: The S-band radar antenna could not rotate, the starboard side anchor could not operate, the hull parts were rusted, and the ballast water tanks

at the bottom and side of the cabin had holes etc.

The interviewee stated that after water entered the cargo hold of the ANGEL Ship, the Master (M-1) who received the ship reported it to the management company. The crew began pumping the water out using handheld submersible pumps and the ballast water system. They instructed the interviewee to pay close attention to the tilt of the ANGEL. It departed from Dalian on June 25th, 2023; before departure, the inspection and testing of the main engine, auxiliary engines and steering gear of the ANGEL were carried out by the Master (M-1) and chief engineer, and everything was normal. The bow and stern drafts of the ANGEL were 5.1 meters and 9.1 meters; the next port of the voyage plan was the Port of Tallinn, Estonia.

The interviewee stated that when the ANGEL tilted 3 to 4 degrees, the crew used the ballast water pump in the engine room and the hand-held submersible pumps to pump water. Four to five days before the occurrence, the management company provided four additional hand-held submersible pumps to the ship. On the day of the accident, the ANGEL was tilted 16 degrees to the portside and the crew was unable to stop the tilt.

The interviewee believed that the ship had technical shortcomings that led to this. The second reason was the lack of proper care for the ship.

1.11.6 2nd Engineer of ANGEL

The interviewee stated that he is a national of Azerbaijan, holds a certificate of competency and an approval certificate from Azerbaijan, has served as a seafarer for 38 years, and has served as second engineer for about 26 years; on May 30, 2023, he serving as the 2nd Engineer (2/E) on the ANGEL. The chief engineer and the interviewee to lead the engine room personnel to perform the inspection and testing of the ANGEL's main engine, auxiliary engine and steering

gear and there were no problems.

In the early morning of July 20, there was an alarm for low fuel pressure from the ANGEL s generator. At that time, both the main engine and the engine order were normal; at 0545 hours on July 20, the ANGEL was powered off for the first time; at 0830 hours, the power was cut off for the second time.

The interviewee believed that the main reason was on opening on the ship hull. Second reason was the failure of the generator.

1.11.7 3rd Engineer of ANGEL

The interviewee stated that he is a national of Azerbaijan, holds a certificate of competency and an approval certificate from Azerbaijan, has served as a seafarer for 3 years, and has served as a third engineer for about 1 year; on May 30, 2023, he began to serve as the 3rd Engineer (3/E) on the ANGEL. After picking up the ship in Colombo, there was no handover between him and the previous second engineer. The chief engineer and engine crew members performed inspections and tests on the main engine, auxiliary engines and steering gear of the ANGEL. There were some minor problems in the engine room.

The interviewee believed that the main reason was that the ship had technical shortcomings that led to this. The second reason was the lack of proper care for the ship.

1.11.8 Able Seaman A of ANGEL

The respondent stated that he is a national of Azerbaijan, holds a certificate of competency and an approval certificate from Azerbaijan, and has served as a seafarer for 10 years. On May 30, 2023, he worked as an able seaman (AB) on the ANGEL after boarding the ship; he discovered that there were serious

problems with the ship's hull condition, engine room equipment, company management, etc. The deck of the ANGEL was rusty, there were many holes in the hatches and cargo holds, and the container lashing equipment was rusty. The ANGEL was in very bad condition, posing a danger to the crew during the lashing process of the containers.

Due to a hole and flooding in the cargo hold, the ballast water system was unable to operate properly. Because the ballast valve room was located in the cargo hold, the crew could operate it underwater. He thought there was a hole in the side of the ship through which seawater was flowing. All the ship's anchors and windlasses were out of commission, and the starboard anchor was inoperable. Two derricks on the ship were not functioning properly. There were also some problems in the engine room. The boiler in the engine room once caught fire, but it was put out immediately. The fire pump was not functioning properly at all. The main engine stopped several times during exercises and sea voyages.

The interviewee submitted photographic evidence (Attachment 2, 55 photos in total) that the ANGEL did not have normal safe working conditions, and the living and working conditions on board were unhygienic. Four to five days after boarding the ship, the toilet on the ship broke and we had to put our waste in plastic bags. Although these problems were reported to the company many times, the management company did not take any action and the management was very poor. The management company did not transfer our paychecks to the crew's accounts on time and was sometimes late in paying half of the expenses. When we boarded the ship, the company's technical department personnel boarded the ship with our crew. I heard that the technical department personnel did not inform the company of the problems and said that the ship was in good condition.

The interviewee stated that he confirmed that the photos he provided were all taken on the ANGEL. Some were taken before arriving in Dalian, some were

taken after Dalian, and some others were unknow. He did not know the specific location of the water ingression (hand-drawn cargo holds area No. 3 to No. 5). The No. 4 cargo hold had the worst water ingress. Seawater continued to enter the ship, and the crew had been using pumps to pump out the water. However, a generator failure caused a power outage. After the loss of power, the pumps were unable to pump water. Eventually, the water continued to flood in and the ship sank.

1.11.9 Able Seaman B of ANGEL

The interviewee stated that he is a national of Azerbaijan, holds a certificate of competency and an approval certificate from Azerbaijan, has served as a seaman for 15 years, and began to serve as an able seaman (AB) on the ANGEL on May 30, 2023.

After boarding the ship, the interviewee discovered that there were no normal safe working conditions on the ANGEL and that the living and working conditions on board were unhygienic. The statement that there were serious problems with the ANGEL's hull condition, engine room equipment, company management, etc. was the same as AB A's statement, and photo evidence was provided. (detailed Attachment 3, 43 photos in total).

1.11.10 Able Seaman C of ANGEL

The interviewee stated that he is a national of Azerbaijan, holds a certificate of competency and an approval certificate from Azerbaijan, has served as a seaman for 3 years, and served as an able seaman (AB) on the ANGEL from July 8, 2023.

Other crew members provided a video taken on July 17, 2023. The video filmed by several AB during boarding the ship and inspecting the deck. The

dialogue (foreign language translation) between the crew and the ABs in the film shows: "Everything is rotten and cannot be operated", " There are some holes in the deck walkway between the cargo holds, and it may break and fall if you step on it", "It's like hell", "The cargo hold is full of water", "The rust is very serious", etc. (Fig. 1.11-2)

Figure1.11-2 Photos of holes and rust on ANGEL's main deck

1.11.11 Supervisor of Classification Society

The interviewee is the head of the quality control department of the INTLREG classification society and responded to the investigation team via email. The interviewee stated that on May 31, 2023, INTLREG dispatched a surveyor to inspect of the ANGEL in Colombo, and issued the certificate on June 2nd, 2023.

The interviewee stated that after leaving Colombo, the ANGEL did not enter the repair shop for repairs, but went to Dalian Port in China for loading. On June 30, 2023, INTLREG technical headquarters issued a Class Warning Letter to ZULU, requiring the company to arrange for the ANGEL to be inspected at the next port or anchorage. There are 3 instructions in total: 1. Survey for rectification of the Outstanding Recommendations. 2. General examination inspection with underwater survey to be carried out by an approved diving company under the supervision of the INTLREG surveyor. 3. ISM Shipboard additional audit.

The interviewee attached the first set of survey documents in the email, including: Colombo survey report, Taiwan survey report, and ANGEL Certificate Status Form.

The interviewee stated that on July 10, 2023, INTLREG revoked the classification certificate and statutory certificate of the ANGEL. On the same day, a suspension letter (the classification society suspension letter) of the classification certificate and statutory certificate was sent to ZULU. The interviewee attached to the email the second set of inspection documents, which is the email record of the certificate related to the suspension of the ANGEL from the Palau flag state on July 10. On the same day, the INTLREG headquarters sent relevant information about the revocation of ANGEL's certificate to ZULU and ANGEL's offices in Turkey via email.

The interviewee stated that ZULU Shipping failed to provide clear

information on the underwater survey arrangements for the ANGEL to the INTLREG classification society, which caused a delay of 12 days for the INTLREG headquarters to issue 6 inspection instructions to the local surveyor in Taiwan.

On July 14, the ANGEL anchored in Port of Kaohsiung. The shipowner arranged for a Taiwanese maritime company (Chen Chian Marine Engineering Co., Ltd.) to perform an underwater hull inspection on the ANGEL. The INTLREG classification society sent a surveyor Lead Shine Marine Consultant embark the ship for inspection, and instructed the surveyor to conduct general inspection, ISM audit, and Colombo survey. The recommended follow-up actions were not implemented and the reported deficiencies were not examined.

On July 14, Lead Shine Marine Consultant's survey report concluded: "The underwater survey was performed by Chen Chian Marine Engineering Co., Ltd., a diving company recognized by IACS members. The surveyor witnessed the inspection through CCTV connected to the diver's camera. It is understood, no damage was found to the hull, please refer to the dive report and final report for details.

1.11.12 Ship Agent of the ANGEL

The interviewee stated that the previous ship name of ANGEL was SSL GANGA. The ship’s flag was changed to Palau in early June this year. The shipowner is Azerbaijan, and the crew of ANGEL are all Azerbaijani nationals.

The ANGEL departed from Dalian port, China. On July 2nd, we applied for replenishment and underwater survey to Kaohsiung Port. The ANGEL was waiting for anchorage near the First Harbor anchorage of Kaohsiung Port. The anchoring position was obtained on July 4 and then dropped anchor.

On July 4, the interviewee uploaded information to the MPB's online system to apply for the ANGEL's general entry into port. At that time, all certificates were complete and valid. The application for general entry on voyage was unsuccessful; after that, the interviewee called Division Chief of the South Taiwan Maritime Affairs Center to discuss the method of emergency entry for maintenance reasons. Division Chief reminded me to attach a class report and photos of the flooding on the ship. The Bureau would then assess whether the emergency entry conditions were met. The interviewee stated that he informed the ANGEL owner's representative of the results of the above communication, and the shipowner's representative said that they would discuss the matter of applying for emergency port entry after he arrived in Taiwan and brought new crew members on board.

On July 8, the shipowner changed the crew at the anchorage of Kaohsiung Port. Eight crew members disembarked and seven crew members boarded the ship. The strange thing was that the Master who handover the ANGEL from the prior shipowner also disembarked. The main purpose of the shipowner's representative boarding the ship was to find out the water seepage situation, go on the ship to confirm whether there are any cracks, and then through the interviewee, find a diver to go offshore to repair it. After the shipowner brought new crew members on board, he believed that the water seepage problem must be solved.

Around July 10, due to poor sea conditions for several days in Kaohsiung, the interviewee informed the shipowner that divers couldn't be found for a hull inspection, despite attempts with several marine companies. The shipowner's representative urged trying again to find a diver. Chen Chian Marine Engineering Co. Ltd. eventually took on the task, and on July 14, their diver conducted the underwater survey. Relevant videos and class reports are available for reference.

On July 18, the interviewee conveyed the opinion of the Maritime Port Bureau to the shipowner’s representative that the ANGEL should be repaired at another port, and asked the shipowner’s representative to propose a backup plan. The shipowner's representative considered that the condition of the ANGEL was getting worse and worse, and asked the respondent to explore the possibility of going to a port around Taiwan. Later, there were two backup plans, one going to Suao Port and the other to Guangzhou. The final plan of the shipowner’s representative was to go to Guangzhou, which would take four days, and to find a guard ship from Guangzhou.

On July 19, the interviewee submitted a letter to the Supervision Division of the South Taiwan Maritime Affairs Center of the Bureau to apply for emergency entry into port. The subject was briefly stated as "The ANGEL enters the port urgently for maintenance due to vessel failure." The person in charge of the Supervision Division stated that there was no damage to the ANGEL’s hull and no injuries. It did not comply with the ship's emergency regulations because the ship could sail without any damage or injuries. The person in charge in the Supervision Division asked the interviewee whether he could ask the ANGEL to go to the next port.

On the morning of July 19, the interviewee received a fax document from the Kaohsiung Port, Taiwan and the subject of which was (English translation) "During the ANGEL ‘s anchoring in the second anchorage area of Kaohsiung Port, it was reported that the ship was flooded." This document requires that "(1) Vessels should leave the anchorage area to take shelter from the wind before sunset on July 19, December." In the afternoon of that day, the Kaohsiung Port, called to ask if the fax had been received, and reiterated the time required for the departure of the ANGEL. In the afternoon of the same day, the interviewee also received a phone call from the South Taiwan Maritime Affairs Center, asking the respondent to resubmit documents according to the emergency entry application

procedure. So far, the Maritime Affairs Bureau had not responded to the outcome of the review of this official document.

At about 0830 hours on July 20, the interviewee went to the Port of Kaohsiung to discuss the delay of the ANGEL 's departure from the anchorage area by 2 to 3 days, because the shipowner had arranged for the ANGEL to go to the mainland China for repairs, and it would take time to wait for the mainland China's escort ship to come to Kaohsiung. About 0900 hours, we were about to return to S5. Not long after, the Port of Kaohsiung notified the interviewee that the ANGEL was tilting and asked two tugboats to guard the ANGEL.

At 0921 hours on July 20, the shipowner’s representative notified the interviewee via WhatsApps that the ANGEL needed emergency assistance due to a power lost, ballast pump failure and listing. The shipowner's representative instructed the interviewee that the ship needed to be arranged and power supplied to the ANGEL. The shipowner’s representative informed the interviewee that “it seems Master calls MYDAY” (screenshot of conversation, Appendix 6).

1.11.13 Flag State Surveyor

On August 1st, 2023, 2 surveyors from the Palau flag state (including the interviewee) and the investigation team met at the South Taiwan Maritime Affairs Center of the MPB and to exchanged information.

Surveyor A said that on the morning of July 10, he received instructions from the Palau Maritime Authority of the flag state to go to Port of Kaohsiung embark the ANGEL for survey. When he boarded the ship that day, he found that all 1,349 containers on the ANGEL were empty. The water in the third cargo hold was not serious, but the water in the 4th and 5th cargo hold was up to 3 meters. The sixth hold was sealed and could not be entered.

Surveyor A stated that there were many deficiencies on the ship, such as crew changes, ISM system files, ISPS system files, the emergency generator could not operate, and the emergency pump could not be started. These were all items for which the ship was detained. The crew used a portable pump to pump the water out, but the water was 3 meters high and the pumping speed was too slow. The rescue boat could not be started; the generator and boiler could not be used.

Surveyor A stated that after the flag state survey was carried out on July 10, he believed that the ship was in urgent condition and was no longer suitable to continue sailing. He reported it to the flag state. The flag state also notified the shipowner and inquired about the handling plan, but before the owner could reply, the ship sank.

Surveyor A believed that the main cause of the accident in this case was water in the cargo hold. The ANGEL should not leave Dalian, and related deficiencies and water ingress conditions should have been improved before it sailed. However, it was only because the ANGEL came to Taiwan that he was able to go up and inspect it. The survey report of the flag state must wait for approval by the flag state before being provided to the Taiwan Transportation Safety Committee.

On August 23, 2023, Surveyor A provided the survey report on July 10 to the investigation team. Comments or conclusions for this document:

Vessel was not in a seaworthy state at the time of inspection. Critical attentions required for the ingress of water in the cargo hold no.4 and 5 with water level up to 3 meters. Vessel had a fresh change of crew and SMS implantation was still in progress. Based on listed deficiencies mentioned below, vessel was liable for PSC detention.

1.11.14 Manager of the Lead Shine Marine Consultant Company

The interviewee stated that Lead Shine Marine Consultant Company was the contract surveyor of INTLREG. On July 4th, the INTLREG contacted the interviewee and requested to dispatch a surveyor to survey the ANGEL on its behalf. The entrustment was then formally entrusted by email. The email contained a survey status report (June 30th) and an email information (including the chief officer's complaint to the ITF, the reply letter from the Singapore MPA, and the instruction letter sent by the flag state of Palau to INTLREG and the shipowner.

Because on June 2nd, when INTLREG boarded the ship in Colombo to conduct a special inspection and extension survey of the ANGEL in accordance with the instructions of the flag state, the surveyor found many shortcomings and raised 17 deficiencies and 5 memoranda (appendix 10). On June 29th, the chief officer of the ship filed a complaint with the ITF and the Maritime Authority of Singapore. Therefore, the requested inspection content (inspection number 23-07-059), in addition to the above-mentioned deficiencies and memos, also included confirmation of the content of the chief officer's complaint.

The interviewee said that on July 10th, INTLREG sent another email to commission a temporary underwater survey. The ANGEL owner, through the assistance of S5 shipping agency, hired Chen Chian Marine to perform the underwater survey on July 14th. On the same day, a surveyor was also dispatched by Lixuan embark the ship to conduct the inspection. Since the shipping agent confirmed that no maintenance work was arranged after the ship arrived at the anchorage, only a temporary underwater survey was conducted on July 14th (inspection number 23-07-075).

The underwater survey that day was an occasional underwater examination. According to the diver's video, corrosion was found on the hull, but no damage

was found (there was no damages found on ship's hull). Because the diving survey report and video could not be obtained immediately, and the ship owner was contacted through an agent, the surveyor left the missing items and requested the ship owner to provide the underwater survey report for review within one month (The diving report for the occasional underwater examination dated 14th July 2013 are to be provided for further evaluation).

The interviewee suggested that the investigation team, since INTLREG had not yet completed formal classification, can only could INTLREG be contacted for relevant ship plans of the ANGEL, the DNV Classification Society and Indian Classification Society could also be contacted (before the ANGEL's owner changed on May 30th, 2023, the classification societies were Dual Class, DNV Classification Society and IRS Indian Classification Society.

Interviewee stated that regarding issues related to the special inspection conducted in Colombo on June 2nd, according to the survey status report (June 30th) received, the ANGEL was supposed to be docked and related inspection completed before June 30th. Only after the inspection could the special inspection be completed. However, the owner and management company of ANGEL (ZULU SHIPPING) could not find a slot for docking inspection at the shipyard and applied to the flag state of Palau for a special inspection extension. The flag state also issued a letter of consent on May 30th and agreed to the special inspection being extended to September 30th, 2023. Accordingly, INTLREG completed the relevant inspection in Colombo and extended the certificate to September 30th, 2023. However, the consent letter did not require underwater survey, which seems to be different from the relevant recommendations [28] of IMO MSC-MEPC.5/Circ.1.

[28] SURVEY AND CERTIFICATION – RELATED MATTERS Recommended conditions for extending the period of validity of a certificate

The interviewee believed that the report email from the chief officer on June 29th showed that the condition of the ANGEL and the living environment of the crew were very poor. When the ANGEL arrived at Dalian Port in China, the shipowner only arranged for loading and did not repair the ship. When a ship undergoes repairs and violates inspection deficiencies requirements and arrives at a convenient port or anchorage for the first time, correction of deficiencies and ISM additional audit requirements must be completed. (be carried out at the first convenient port and/or anchorage area.)

The interviewee believed that the chief officer sent a complaint email to the ITF and sent it to the MPA Singapore at the same time after the crew members felt desperate in the face of the long voyage after leaving port. It can be seen from the inspection request document that on June 30th, the MPA Singapore forwarded the chief mate's complaint email to the Palau flag state and the China MSA to request attention to the situation on the ship. However, the Palau flag state immediately sent a letter to INTLREG and ANGEL’s shipowner requiring the ANGEL to deviate to Taiwan, anchor, and undergo flag state inspections in order to avoid inspections by China and Singapore. The shipowner also did not notify the Taiwan maritime authorities. The interviewee also believed that this did not seem to be an appropriate approach.

The interviewee believed that after the ANGEL arrived at the anchorage area of Port of Kaohsiung on July 4th, Lead Shine Marine Consultant did not receive a notice from the shipowner to arrange for a surveyor embark the ship to perform inspection work. In addition, the agent learned that the flag state surveyors boarded the ship for inspection on July 10th. Also on board was a navigation instrument company employee to inspect the radar. The said employee boarded the ship in a small boat together with the surveyor from the Palau flag state.

The interviewee said that the underwater survey carried out on board the

ship on July 14th was another task carried out at short notice. It was more like the shipowner trying to reassure the crew because the replacement Master B refused to sail. The underwater survey video by Golden Port's diver was also played on the bridge for the crew of the ship to watch.

The interviewee inquired on the EQUASIS website and learned that in 2018, the ANGEL had a special docking inspection in Hong Kong, and in 2020, an underwater survey was carried out to replace the docking inspection.

When the investigation team conducted another interview with the interviewee by phone on August 24th, he stated that because it was an agency inspection, it was not mentioned in the inspection email and that he did not know about the suspension of Class declared by INTLREG on the same day. The interviewee also informed that there are several situations in which a ship is subject to Suspension of Class, such as: (1) Automatic Suspension of Class due to overdue certificates or periodic surveys. For example, when the ship is sailing, inspection is not arranged in a timely way (2) due to an accident or serious defect, for example, after being detained by PSC, the shipowner does not actively deal with and repair the ship, and the classification society will declare Suspension of Class on its own. (3) The flag state notifies the classification society of Suspension of Class for the ship due to specific reasons.

The interviewee suggested that the investigation team could inquire about the relevant actions of the INTLREG headquarters and the Palau flag state in accordance with the provisions of SOLAS Chapter 1 General Provisions, Part B Survey and Certificate Article 6.

1.11.15 Senior Officer of the South Taiwan Maritime Affairs Center

On July 21, the director of the Marine Technology Division of the South Taiwan Maritime Affairs Center stated that preliminary information determined

that the ANGEL carried a large number of empty containers and was originally intended to be transported to Europe. Later, the ANGEL applied to enter Port of Kaohsiung, probably to unload the empty containers, the ship may have some malfunctions and applied to enter. The port needed repairs, but the Master (M-2) asked the Port of Kaohsiung, Taiwan International Ports for help without taking action. After that, the ship tilted and sank.

On August 2nd, the director of the Marine Technology Division of the South Taiwan Maritime Affairs Center stated that the Master (M-2) of the ANGEL was newly hired and boarded the ship on July 8 to confirm the conditions on the ship. From July 4 to July 18, the Master (M-2) of the ANGEL did not report any abnormal conditions to the VTS.

The interviewee stated that it was only on July 18 that the Master (M-2) of the ANGEL told the S5 ASIA that he wanted to apply for emergency entry into port. VTS asked if there was anything wrong with the ANGEL, and the Master (M-2) reported that there was water in the cargo hold and that it was being dealt with, no major issues. The Port of Kaohsiung, Taiwan International Ports called the shipping agent and the agent replied that there was no problem with the ship and only water leakage occurred in the cargo hold. On July 19th, the ANGEL's shipping agency sent a letter to the MPB to apply for emergency entry into the port. The Port Affairs Division is responsible for this business. At about 0601 hours on July 20th, VTS asked about the condition of the ANGEL (after investigation, the ANGEL lost power for the first time), and the Master (M-2) replied: "*in very good condition*."

The interviewee said that in response to the official document from S5 ASIA on July 19, the MPB did not reply to the ANGEL's application for emergency entry until the sinking of the ANGEL.

The interviewee believed that the reason why the ANGEL lost power was

that oil sludge blocked the pipeline. The emergency generator was started, but the emergency power supply could not supply the seawater pump.

1.11.16 Manager of the Harbor Control Center of TIPC-Kaohsiung

The interviewee stated that under the current emergency port entry procedures of the Marine and Port Bureau (MPB), a ship requiring urgent entry should report this to VTS. However, the Kaohsiung VTS did not receive any such emergency port entry request or notification for a ship during the specified period. In a genuine emergency, it is the Master's responsibility to directly apply to VTS. The ANGEL did not report any such request between July 4th and July 20th. Furthermore, it is the duty of the ANGEL's shipping agent to promptly inform about the ship's status, liaise with the relevant authorities, and submit the necessary application.

The interviewee stated that on the morning of July 18, 2012, he received a call from the manager of the monitoring center stating that a ship of S5 ASIA had water in the anchorage area, but he did not know the name of the ship. He then learned through the system that it was the ANGEL; at that time, the VTS operator was asked to contact the ANGEL via VHF to understand the situation, and the ANGEL informed him that water was entering the hull. It had asked people to check but did not know the reason. Regarding the fax of July 19th, the preparation was completed on July 18th. At that time, a typhoon was already approaching Kaohsiung and the anchorage area needed to be cleared for typhoon prevention. At the same time, the manager of the monitoring center informed ANGEL that the MPB had refused entry to the port. Therefore, On July 19th, the shipping agent was notified to inform the Master to leave the anchor area.

The interviewee said that VTS also contacted the ANGEL in the early morning of July 20th to inquire about the status of the ship. The ANGEL stated that everything on the ship was fine and that personnel were still looking for problems and trying to eliminate them. VTS also asked the ANGEL in the morning of July 20th whether a tugboat had gone guard and assist, but ANGEL

said there was none. At 0937, the Master of ANGEL announced MAYDAY. At about 0830 hours, the shipping agent personnel went to the Director's Office of the Harbor Management Division of our company to coordinate and allow the ANGEL to wait at the anchorage for 40 hours to wait for the owner to arrange for a mainland tugboat to come to the rescue. The director informed him the mainland tugboat that it had no navigation rights and could not enter Taiwan waters, fearing that there might be a problem. Shortly after the shipping agent left, ANGEL announced MAYDAY.

The interviewee believes that for the container that fell into the sea in ANGEL, the company has arranged for manufacturers to conduct scanning and surveying to confirm the location of the containers that sank to the seabed, and has also issued navigational notices, and notified the Naval Meteorological and Oceanographic Office and the Electronic Chart Center to issue navigational notices; most of them were depth of 30 meters, and will not hinder navigation.

The interviewee provided the following opinions on the future management of the anchorage area of Port of Kaohsiung as follows:

Discussions are ongoing with the MPB and the Coast Guard on how to involve public authorities. Since the anchorage area is divided into anchoring in and out of the port and anchoring in the port, the first two need to apply for entry and exit procedures from the shipping administration authority and seaworthiness and ship certificate of the ship can be reviewed; but the current situation is that ships anchoring at the port do not need to apply for a visa from the shipping administration authority. The condition of the ship is thus difficult to know, so further communication with the MPB is required. At the same time, CIQS border management also needs to have corresponding manage.

For future planning, the protocol for managing ship repairs at anchorage will be more stringent. It will necessitate not only project applications but also mandatory inspections by relevant ship engineering companies to assess the vessel's condition. Prior to anchoring, comprehensive documentation and a review process will be required. Additionally, VTS will verify the ship's condition

within 24 hours of anchoring. In the future, anchorage will not allow vessels to apply for anchoring at the port. Vessel anchoring locations will be designated, the number of vessels in the anchorage area will be controlled, and the duration of anchoring for vessels will also be regulated. Vessels anchoring for more than 7 days will be required to weigh anchor and re-determine the anchoring sequence outside the harbor.

1.11.17 Manager of the Control and Monitoring Center of TIPC-Kaohsiung

The interviewee stated that on July 18, the manager of S5 ASIA came to the monitoring center of TIPC- Kaohsiung, and he stated that a vessel they were agent for had water ingress while moored in the anchorage area, and the vessel wanted to enter port for repairs. The monitoring center informed the S5 ASIA that the management of the anchorage area is the responsibility of the Harbor Control Center. If there are any issues with the vessel, it needs to be reported to the Harbor Control Center first. When asked if the manager of S5 ASIA had reported to the navigation center, he did not respond and left the monitoring center.

The interviewee stated that he immediately notified the manager of the Harbor Control Center by phone that one of the ships represented by S5 ASIA was currently anchored, and there may be a situation of water ingress on board. The ship agent asked if the relevant information had been received. The manager of the Harbor Control Center stated that they had not received any report, and the navigation center immediately proceeded to verify and check the situation.

Regarding whether they received emails from S5 ASIA on July 18, the interviewee stated that due to the information security integration management, emails that were not set to the whitelist would be transferred to spam. Therefore, we have not seen any emails about the Master of the ANGEL or S5 ASIA before the occurrence.

The interviewee stated that on July 19, a manager of S5 ASIA stated on the phone that the ANGEL wanted to apply for emergency entry into port, but it had been rejected by the MPB. The interviewee was told at that time that he must provide the corresponding documents required by the Bureau to apply, because the application for emergency entry requires the Bureau's review and approval according to the Commercial Port Act. After approval, relevant information and true ship conditions will be provided to the Port of Kaohsiung, Taiwan International Ports. Only then could a suitable dock be arranged for docking, and the corresponding pilot or tugboat arranged to assist the ship enter port.

The interviewee recounted that on July 18, a manager from S5 ASIA visited the monitoring center and reported that a ship he represented was experiencing water ingress while moored in the anchorage area and needed to enter port for repairs. The interviewee informed the S5 manager that the Harbor Control Center is responsible for managing the anchorage area and that any issues with a ship must first be reported to the Harbor Control Center, including the ship's status. The interviewee questioned whether the S5 ASIA manager had notified the Harbor Control Center. After receiving no response to this query, the S5 ASIA manager departed the control center.

The interviewee mentioned that he promptly contacted the manager of the Harbor Control Center by phone to report that a ship, represented by S5 ASIA, was anchored in the anchorage area and might have water on board. He inquired if the Center had received any related information. The manager of the Harbor Control Center responded that no notification had been received, prompting the Center to initiate a verification and assessment process.

1.12 Organization and Management

The ANGEL is registered under the Palau flag and owned by the

NAVRAMAR Shipping INC., registered in the Marshall Islands. It is managed by the ZULU Shipping LLC. The ship holds an interim Safety Management Certificate (SMC) issued by the classification society of INTLREG on June 2nd, 2023. Furthermore, it had a valid Document of Compliance (DOC) until December 1st, issued on May 21, 2023. The classification society of INTLREG is recognized by the Palau Marine Department.

Following the survey report of the ANGEL by the flag state inspector and the Protection & Indemnity (P&I) Insurance Company surveyor, it was discovered that the International Ship Safety Management (ISM) system on the ANGEL was not fully established. The Ship Safety Management System (SMS) had not been implemented on the ship. Additionally, the SMS manual had not been printed for the crew members to familiarize themselves with, and there was no record of reading signatures on board, indicating a lack of familiarity and compliance with the safety procedures among the crew. Related regulations and reference documents

1.13 Relevant Regulations and Reference Documents

In order to analyze the organizational and management issues involved in this occurrence, two parts of relevant information are summarized below: the relevant regulation relating to application to enter Taiwan’s commercial ports by foreign ships, and relevant international regulations and reference documents.

1.13.1 Relevant Regulations Related to the Application to Enter Taiwan's Commercial Ports by Foreign Ships

1.13.1.1 The Commercial Port Law

Chapter 4 Security and Pollution Prevention

Article 19

1. *The ship owner or her agents shall fill in a prior declaration form for ship's entrance or departure for international commercial ports, 24 hours before the ship's arrival, or 12 hours before the ship's departure, and file the form with the commercial port authority for inspection and arranging berthing. However, if ships due to certain matters arrive in 12 hours after departure, entrance procedures should be handled again after commercial port authorities have given their approval.*

2. *The ship owner or her agents shall fill in a prior declaration form for ship's entrance or departure for domestic commercial ports, 24 hours before the ship's arrival, or 12 hours before the ship's departure, and file the form with the commercial port authority for inspection and arranging berthing. However, if ships due to certain matters arrive in 12 hours after departure, entrance procedures should be handled again after commercial port authorities have given their approval.*

3. *Regarding the goal and ship status of the entrance of ships actually entering the port that do not fit with the prior declaration of the entrance of ships, the owner of the ship and its representative should make amends accordingly.*

4. *If the ship is likely to affect the functions and the public security of the commercial port, the commercial port authority is entitled to reject the application for her entrance into the port until such a possibility no*

longer exists.

Article 21

When a ship encounters an emergency event and requires urgent berthing, the commercial port authority consults with relevant authorities to inspect the situation, and is entitled to reject the application for her entrance into the port when one of the following conditions is met:

1. *A ship carrying dangerous cargoes*
2. *Commercial port that cannot handle a ship that carries people who have been subjected to or seem to be infected with infectious diseases, that will influence national epidemic prevention safety*
3. *Body of ship has been seriously damaged, or the ship is in danger of sinking.*
4. *Other violation of regulations or no need of entering the port.*

1.13.1.2 The Regulations on Port Services at Commercial Ports

Section 3 Ships in Distress or Taking Shelter

Article 47 A ship in distress or taking shelter shall contact the port's signal tower, which should then report to the maritime and port authority or its designated institution.

Article 48 A ship in distress or taking shelter shall complete the following procedures immediately after berthing in the port:

1. *It shall prepare the notice sheet for the ship to enter the port with the passengers' list and the seafarers' roster and submit them to the maritime and port authority or its designated institution for inspection.*

2. *The ship in distress shall submit sea protest to the maritime and port authority or its designated institution for authentication.*

3. *The captain shall prepare and submit required documentation on the ship to the maritime and port authority or its designated institution for verification.*

1.13.1.3 Enforcement Directions for Applying Ships in Distress or Taking Shelter to Enter Commercial Ports by the Harbor Bureau of the Ministry of Transport

2. The term " ships in distress or taking shelter " in this procedure refers to the following situations:

   (1) When a ship faces immediate danger due to the passage of a typhoon or severe sea conditions.

   (2) When crew members or passengers have serious injuries or illnesses requiring immediate medical treatment.

   (3) When the ship 's cargo is damaged or shifted, or when the hull or machinery is damaged.

   (4) Other force majeure circumstances.

4. If a distress or taking shelter ship falls under any of the circumstances specified in Article 21 of the commercial port law, the Bureau may refuse its entry into the port.

8. After a distress or taking shelter ship has completed relevant procedures for entry into the port and has been inspected by the Bureau in conjunction with relevant units, if it is found that the reasons for the ship's application for entry into the port are untrue, the Bureau will

handle it in accordance with Article 23 and Article 67 of the commercial port law, and request its immediate departure. The same applies if the reasons for applying for emergency entry into the port under these guidelines disappear or are resolved.

9. Applications for entry into the port by a distress or taking shelter ship shall be handled in accordance with relevant provisions of the Pilotage Act, Commercial Port Act, and Commercial Port Harbor Administration Regulations.

1.13.2 International Regulations and Reference Documents

1.13.2.1 United Nations Convention on the Law of the Sea

Article 94 Duties of the flag State

1. Every State shall effectively exercise its jurisdiction and control in administrative, technical and social matters over ships flying its flag.

... (skip)

3. Every State shall take such measures for ships flying its flag as are necessary to ensure safety at sea with regard, inter alia, to:

(a) the construction, equipment and seaworthiness of ships;

(b) the manning of ships, labor conditions and the training of crew members, considering the applicable international instruments;

(c) the use of signals, the maintenance of communications and the prevention of collisions.

4. Such measures shall include those necessary to ensure:

(a) that each ship, before registration and thereafter at appropriate intervals, is surveyed by a qualified surveyor of ships, and has on board such charts, nautical publications and navigational equipment and instruments as are appropriate for the safe navigation of the ship;

(b) that each ship is in the charge of a master and officers who possess appropriate qualifications, in particular in seamanship, navigation, communications and marine engineering, and that the crew is appropriate in qualification and numbers for the type, size, machinery and equipment of the ship;

(c) that the master, officers and, to the extent appropriate, the crew are fully conversant with and required to observe the applicable international regulations concerning the safety of life at sea, the prevention of collisions, the prevention, reduction and control of marine pollution, and the maintenance of communications by radio.

5. In taking the measures called for in paragraphs 3 and 4 each State is required to conform to generally accepted international regulations, procedures and practices and to take any steps which may be necessary to secure their observance.

1.13.2.2 International Convention for Safety of Life at Sea

International Convention for the Safety of Life at Sea (SOLAS)

SOLAS Chapter I - General Provisions

Part B – Surveys and Certificates

Regulation 6 - Inspection and Survey

...(skip)

(c)When a nominated surveyor or recognized organization determines that the condition of the ship or its equipment does not correspond substantially with the particulars of the certificate or is such that the ship is not fit to proceed to sea without danger to the ship, or persons on board, such surveyor or organization shall immediately ensure that corrective action is taken and shall in due course notify the Administration. If such corrective action is not taken the relevant certificate should be withdrawn and the Administration shall be notified immediately; and, if the ship is in the port of another Party, the appropriate authorities of the port State shall also be notified immediately. When an officer of the Administration, a nominated surveyor or a recognized organization has notified the appropriate authorities of the port State, the Government of the port State concerned shall give such officer, surveyor or organization any necessary assistance to carry out their obligations under this regulation. When applicable, the Government of the port State concerned shall ensure that the ship shall not sail until it can proceed to sea, or leave port for the purpose of proceeding to the appropriate repair yard, without danger to the ship or persons on board.

1.13.2.3 International Safety Management Code

Articles on ship safety management, excerpted from the International Safety Management Code (ISM Code) as follows:

3. Company Responsibilities and Authority

3.1 If the entity who is responsible for the operation of the ship is other than the owner, the owner must report the full name and details of such entity to

the Administration.

3.2 The Company should define and document the responsibility, authority and interrelation of all personnel who manage, perform and verify work relating to and affecting safety and pollution prevention.

3.3 The Company is responsible for ensuring that adequate resources and shore-based support are provided to enable the designated person or persons to carry out their functions.

5. Master's Responsibility and Authority

5.1 The Company should clearly define and document the master's responsibility with regard to:

1. *implementing the safety and environmental-protection policy of the Company;*
2. *motivating the crew in the observation of that policy;*
3. *issuing appropriate orders and instructions in a clear and simple manner;*
4. *verifying that specified requirements are observed; and*
5. *periodically reviewing the safety management system and reporting its deficiencies to the shore-based management.*

5.2 The Company should ensure that the SMS operating on board the ship contains a clear statement emphasizing the Master's authority. The Company should establish in the SMS that the master has the overriding authority and the responsibility to make decisions with respect to safety and pollution prevention and to request the Company's assistance as may be necessary.

7. Shipboard Operations

The Company should establish procedures, plans and instructions, including checklists as appropriate, for key shipboard operations concerning the safety of the personnel, ship and protection of the environment. The various tasks should be defined and assigned to qualified personnel.

8. Emergency Preparedness

8. 1 The Company should identify potential emergency shipboard situations, and establish procedures to respond to them.

8.2 The Company should establish programmed for drills and exercises to prepare for emergency actions.

8.3 The safety management system should provide for measures ensuring that the Company's organization can respond at any time to hazards, accidents and emergency situations involving its ships.

9. Reports and Analysis of Non-conformities, Accident and Hazardous Occurrences

9.1 The SMS should include procedures ensuring that non-conformities, accidents and hazardous situations are reported to the Company, investigated and analyzed with the objective of improving safety and pollution prevention.

9.2 The Company should establish procedures for the implementation of corrective action.

11. Documentation

11.2 The Company should ensure that:

1. *valid documents are available at all relevant locations;*
2. *changes to documents are reviewed and approved by authorized personnel; and*
3. *obsolete documents are promptly removed.*

1.13.2.4 IMO Instruments Implementation Code

The IMO Instruments Implementation Code A.1070(28) is announced by the IMO related excerpts are follows：

20. The flag State should establish or participate in an oversight programmed with adequate resources for monitoring of, and communication with, its recognized organization(s) in order to ensure that its international obligations are fully met, by:

1. *exercising its authority to conduct supplementary surveys to ensure that ships entitled to fly its flag effectively comply with the requirements of the applicable international instruments;*
2. *conducting supplementary surveys as it deems necessary to ensure that ships entitled to fly its flag comply with national requirements, which supplement the international mandatory requirements; and*
3. *providing staff who have a good knowledge of the rules and regulations of the flag State and those of the recognized organizations and who are available to carry out effective oversight of the recognized organizations.*

21 A flag State nominating surveyor(s) for the purpose of carrying out surveys, audits and inspections on its behalf should regulate such nominations, as appropriate, in accordance with the guidance provided in paragraph 18, in particular subparagraphs 3 and 4.

23 A flag State should develop and implement a control and monitoring programmed, as appropriate, in order to:

1. *provide for prompt and thorough casualty investigations, with reporting to the Organization as appropriate;*
2. *provide for the collection of statistical data, so that trend analyses can be conducted to identify problem areas; and*

3. *provide for a timely response to deficiencies and alleged pollution incidents reported by port or coastal States.*

1.13.2.5 Guidelines for the Authorization of Organizations Acting on Behalf of the Administration

The Guidelines for the Authorization of Organizations Acting on Behalf of the Administration (A.739(18)) is announced by the IMO related excerpts are follows:

1. *Under the provisions of regulation, I/6 of SOLAS 74, article 13 of Load Lines 66, regulation 4 (now regulation 6) of Annex I and regulation 10 (now regulation 8) of Annex II of MARPOL 73/78 and article 6 of Tonnage 69, many flag States authorize organizations to act on their behalf in the surveys and certification and determination of tonnages as required by these conventions.*

…. (skip)

3. *The Administration should establish a system to ensure the adequacy of work performed by the organizations authorized to act on its behalf. Such a system should, inter alia, include the following items:*

   (1) Procedures for communication with the organization

   (2) Procedures for reporting from the organization and processing of reports by the Administration

   (3) Additional ship's inspections by the Administration

   (4) The Administration's evaluation/acceptance of the certification of the organization's quality system by an independent body of auditors recognized by the Administration

   (5) Monitoring and verification of class-related matters, as applicable.

…(skip)

Appendix 1 Minimum standards for recognized organizations acting on behalf of the Admiration

Specific provisions

3. The organization should be established with:

3.1 a significant technical, managerial and support staff, catering also for capability of developing and maintaining rules and/or regulations; and

3.2 a qualified professional staff to provide the required service representing an adequate geographical coverage and local representation as required.

4. The organization should be governed by the principles of ethical behavior, which should be contained in a Code of Ethics and as such recognize the inherent responsibility associated with a delegation of authority to include assurance as to the adequate performance of services as well as the confidentiality of related information as appropriates.

…(skip)

6. The organization should be prepared to provide relevant information to the Administration.

1.13.2.6 Causality Investigation Code

Chapter 16 – Principles of investigation

16.2 Safety focused: It is not the objective of a marine safety investigation to determine liability, or apportion blame. However, the investigator(s) carrying out a marine safety investigation should not refrain from fully reporting on the causal factors because fault or liability may be inferred

from the findings.

16.4 Priority: A marine safety investigation should, as far as possible, be afforded the same priority as any other investigation, including investigations by a State for criminal purposes being conducted into the marine casualty or marine incident.

16.4.2 The evidence for which ready access should be provided should include:.1 survey and other records held by the flag State, the owners, and classification societies;.2 all recorded data, including voyage data recorders; and.3 evidence that may be provided by government surveyors, coastguard officers, vessel traffic service operators, pilots or other marine personnel.

1.14 Medical and Pathological Information

No related issues.

1.15 Survival Aspects

No related issues.

1.16 Sequence of Events

Table 1.16-1 Sequence of Events

Date/Time	Content Description	Source
05/22~05/24	The ANGEL anchored at Colombo, Sri Lanka	PIR
05/30	The ANGEL changed ship owner and flag state The chief engineer officer (C/E-1) of the ANGEL found that the boiler was not working when he boarded the ship, and he reported to Master (M-1) requested for repairing.	CSR PIR
06/01 | **06/02**	The crew of the ANGEL (18 crew in total) began to use logs to record their daily work; INTLREG conducts renewal statutory survey; And ANGEL obtained the INTLREG classification society certificate; The ANGEL replaced with a new EPIRB.	DLB CSR PIR
06/03 0900 - 1000	The ANGEL's crew performed fire-fighting drill.	DLB
1155 - 1200	Eleven photos found on the personal mobile phone of chief engineer officer (C/E-1) being flooded in the cargo hold; The logbook did not record water ingress in the cargo hold.	DLB PIR
06/04 1330-1400	The ANGEL's crew performed abandon ship drill.	DLB
06/07 0005 - 0255	A pilot boarded the ANGEL, and she lifted anchor at the Colombo anchorage area and lowered an anchor for testing. (Note that the starboard side anchor is not working)	DLB PIR
06/08 1010 - 1410	A tugboat assisted the ANGEL, and the portside - anchor is lowered for testing after lifting the anchor.	DLB
06/09 0115 - 0130	The ANGEL weighed anchor and began sailing.	DLB
06/10	Logbook recorded destination port Dalian, China.	DLB
06/11 1000 - 1100	The ANGEL's crew performed main engine failure drill.	DLB
06/14	The Master (M-1) stayed at bridge of the ANGEL and	DLB

Date/Time	Content Description	Source
1000 - 1700	commanded passed through the Singapore Strait.	
06/19	Logbook recorded destination port Hong Kong.	DLB
06/20 1125	The ANGEL arrived in Hong Kong and notified the Hong Kong Marine Department that the ship was anchored. ANGEL's water generator is not working, add water in Hong Kong.	ER DLB
1625	The ANGEL weighed anchor and began sailing	DLB
06/21	Logbook recorded destination port Dalian, China	DLB
06/21~06/22	The ANGEL sailed northward along the west side of the Taiwan Strait.	AIS
06/23		
0000	The ANGEL's crew performed bridge visibility restricted checklist.	DLB
1500-1600	The ANGEL's crew performed abandon ship drill.	DLB
06/24		
0010	The ANGEL anchored at Dalian port, China.	DLB
0400-0900	The ANGEL weighed anchor, pilot board the ship, and berthed at Dalian Port. T&A Marine Consultants and Surveyors Co., Ltd conducted inspections on the ANGEL Ship in Dalian Port, China on June 24 and 25. The logbook did not record the boarding inspection of Hydor P&I.	LB PSR
1010	The ANGEL began loading operations with a total of 1,349 empty containers	DLB
06/25		
1620-1730	The pilot boarded ANGEL, left the berth, and the pilot left the ship.	DLB
1740	The ANGEL was sailing with full speed, and the destination port was not recorded in the logbook.	DLB
06/26		
0510 - 1710	The crew visual inspection found water flooded in cargo holds no.3, no.4, and no.5, and the Master (M-1) reported to	DLB

Date/Time	Content Description	Source
	the ZULU. The crew continued to check the water flooded in the cargo hold, and the water depth was 10 cm.	
06/27		
0200 - 1400	At 0200 hours, the water depth in the cargo hold was 30 cm At 1400 hours, the water depth in the cargo hold was 50 cm, rolling to portside and starboard side, and the GM was insufficient.	DLB
2200 - 2300	The ANGEL listed to portside and starboard side, almost losing GM. The ANGEL listed to starboard side about 5 degrees. The captain (M-1) reported this situation to ZULU, and operated ballast water.	DLB
06/28		
0010 - 0330	The 4th cylinder of the main engine had a crack in its sheath, so The ANGEL changed course and sailed northbound for maintenance. The ANGEL began drifting in the East China Sea. At 0300 hours, The ANGEL listed 3 degrees to the starboard side and the crew started pumping ballast water. At 0330 hours, the crew stopped pumping ballast water.	AIS PIR DLB
1025 - 1045	The ANGEL listed 4 degrees to the starboard side At 1025 hours, the crew started pumping ballast water. At 1045 hours, the crew stopped pumping ballast water.	DLB
1345 - 1620	The ANGEL anchored at N29 45.61, E123 23.35 The crew continued to check that cargo holds no.3, no.4, and no.5 were flooded with water, and water depth was 90 cm. The ANGEL listed 4 degrees to the portside. At 1555 hours, the crew started pumping ballast water. At 1620 hours, the crew stopped pumping ballast water.	DLB
2110-2140	The ANGEL listed 4 degrees to the portside. At 2110 hours, the crew started pumping ballast water. At 2140 hours, the crew stopped pumping ballast water.	DLB

Date/Time	Content Description	Source
06/29		
0230 - 0500	The ANGEL changed course and sailed westward, anchored in the leeward and parked for more than 10 hours to repair the main engine. The crew continued to check that cargo holds no.3, no.4, no.5, and no.6 were flooded with water, and the water depth was 1 meter.	AIS DLB PIR
0600-0625	The ANGEL listed 3 degrees to the starboard side. At 0600 hours, the crew started pumping ballast water. At 0625 hours, the crew stopped pumping ballast water.	DLB
1150	The main engine of the ANGEL is repaired and the anchor is weighed.	DLB
1218-1425	The ANGEL sailed after weighing anchor, listed 3 degrees to the starboard side. At 1400 hours, the crew started pumping ballast water. At1 1425 hours, the crew stopped pumping ballast water.	DLB
1727	The Chief Officer (C/O-1) of the ANGEL submitted a “Pan Pan” letter to the International Transport Workers Federation (ITF) and the Singapore Maritime Authority via email and announced 10 major deficiencies of the ANGEL.	ER
06/30		
	INTLREG issued a classification society warning letter to ZULU, requiring the ZULU to arrange for the ANGEL to be inspected at the next port or anchorage. It contained three instructions: the recommended items in the Colombo survey report; general underwater survey; and ISM audit.	ER
0000 - 0250	At 0130 hours, the water in the cargo holds no.3, no.4, no.5, and no.6 increased. The ANGEL listed 3 degrees to the portside. At 0230 hours, the crew started pumping ballast water. At1 0250 hours, the crew stopped pumping ballast water.	DLB
0900 - 0930	The ANGEL listed 5 degrees to the starboard side. At 0900 hours, the crew started pumping ballast water.	DLB

Date/Time	Content Description	Source
	At 0930 hours, the crew stopped pumping ballast water.	
1226	The Maritime Authority of Singapore notified the Palau flag state via email regarding the email information provided by the Chief Officer (C/O-1) of the ANGEL.	ER
1250	The flag state of Palau notified the classification society INTLREG via email, highlighting the following information: 1. The status of the ANGEL has been reported to the China Maritime Safety Administration.; 2. The competent authority of the flag state of Palau requires the ship to arrive in Taiwan immediately to arrange for local Palau inspectors embark and perform an inspection.	ER PIR
1405	The ANGEL sailed after weighing anchor.	DLB
1705 - 1730	The ANGEL listed 4 degrees to the starboard side. At 1705 hours, the crew started pumping ballast water. At 1730 hours, the crew stopped pumping ballast water.	DLB
07/01		
0100-0200	At 0100 hours, the deck logbook of the ANGEL recorded that the destination port was Kaohsiung Port. Increased water ingress in cargo holds no.3, no.4, no.5, no.6. The ANGEL listed 5 degrees to the starboard side. At 0140 hours, the crew started pumping ballast water. At 0200 hours, the crew stopped pumping ballast water.	DLB
0844	ZULU notified S5 ASIA by email, highlighting the following information: 1. Handle entry and exit formalities; 2. Arrange for underwater survey of the hull and possible further underwater welding (we suspected that water has entered the underwater part of the hull); 3. Necessary spare parts and material supply.	SAD
0852	S5 ASIA notified CCME LTD and ZULU via email arrange for underwater survey for the ANGEL	SAD
1334	ZULU contacted S5 ASIA and CCME LTD by email, stating briefly that "There are suspected holes or cracks between FR70 and FR165 on the bottom shell."	SAD

Date/Time	Content Description	Source
1350-1415	The ANGEL listed 4 degrees to the starboard side. At 1350 hours, the crew started pumping ballast water. At 1415 hours, the crew stopped pumping ballast water.	DLB
2210-2230	The ANGEL listed 3 degrees to the portside. At 2210 hours, the crew started pumping ballast water. At 2230 hours, the crew stopped pumping ballast water.	DLB
2310	The ANGEL changed course and sailed to Kaohsiung Port. The logbook recorded the destination was Kaohsiung Port.	AIS ELB
07/02		
0100 - 0510	Increased water ingress in cargo holds no.3, no.4, no.5, no.6. The ANGEL listed 5 degrees to the starboard side. At 0450 hours, the crew started pumping ballast water. At 0510 hours, the crew stopped pumping ballast water.	DLB
1130	CCME LTD notified S5 ASIA and ZULU by email stating briefly that “1. Locating the leak…; 2. Once the leakage is found, … If the inspection can be successfully, we will proceed with risk assessment and method for repair.”	SAD
1317	ZULU informed CCME LTD by email stating briefly that “We suspect that there are two areas with holes or cracks on bottom shell.1. No.5 DB (port) between FR105 and FR143.2. No.3 DB (port) between FR147 and FR165. Bottom shell thickness is 15mm.”	SAD
1600	The ANGEL drifted after arriving about 10 nautical miles west of First Harbor Entrance, Kaohsiung Port.	AIS
2017	ZULU informed S5 ASIA via email about the relevant certificates and documents prior to arriving at Kaohsiung Port. These documents were provided by the Master of ANGEL.	SAD
2040	S5 ASIA responded to ZULU and the Master (M-1) of ANGEL via email, stating briefly that "1. Receive relevant certificates and documents before arriving at the port, and apply for entry; 2. Receive notification from the S-MPB/MOTC that the ANGEL did not comply with the entry	SAD

Date/Time	Content Description	Source
	regulations."	
2045-2110	Increased water ingress in cargo holds no.3, no.4, no.5, no.6. The ANGEL listed 5 degrees to the starboard side. At 2045hours, the crew started pumping ballast water. At 2110 hours, the crew stopped pumping ballast water.	DLB
07/03		
0510-0530	The ANGEL listed 5 degrees to the portside. At 0510 hours, the crew started pumping ballast water. At 0530 hours, the crew stopped pumping ballast water.	DLB
1425-1510	Increased water ingress in cargo holds no.3, no.4, no.5, no.6. The ANGEL listed 5 degrees to the portside. At 1425 hours, the crew started pumping ballast water. At 1510 hours, the crew stopped pumping ballast water.	DLB
2200	The ANGEL listed 3 degrees to the portside. The crew pumping out ballast water.	DLB
07/04		
0200 - 0220	The ANGEL listed 5 degrees to the portside. At 0200 hours, the crew started pumping ballast water. At 0220 hours, the crew stopped pumping ballast water.	DLB
	S5 ASIA received an email from the Captain of ANGEL, all of certificates are valid.	PIR
	S5 ASIA oral contact with MPB and asked for entry Kaohsiung Port for supply, S5 ASIA did not apply the relevant application forms.	PIR
1020	The ANGEL listed to portside/ starboard side every 2 hours. The crew pumping out ballast water.	DLB
1320-1340	The ANGEL listed 5 degrees to the portside. At 1320 hours, the crew started pumping ballast water. At 1340 hours, the crew stopped pumping ballast water.	DLB
2046	The ANGEL anchored at the second anchorage area of Kaohsiung Port, N22 36.2, E 120 12.7.	DLB
1844~2050	From 0800 to 0950 hours, the no.2 generator of the ANGEL was operational, while the no.3 generator was on standby.	ELB

Date/Time	Content Description	Source
	At 1844 hours, the main engine of the ANGEL started, At 2043 hours, the main engine of the ANGEL stopped.	
07/05		
	The no.2 generator of the ANGEL was operational, while the no.3 generator was on standby.	ELB
0220 - 0610	Increased water ingress in cargo holds no.3, no.4, no.5, no.6. The ANGEL listed to portside/ starboard side every one hours. The crew pumping out ballast water.	DLB
0900 - 1400	● S5 ASIA arranged for the ANGEL to be filled up with fresh water in the anchorage area, transported the first batch of supplies on board, and arranged for the ANGEL's crew to go ashore for medical treatment. ● S5 ASIA notified ZULU that the ANGEL did not comply with the regulations for one-time entrance. ZULU requested the shipping agent to continue communicating with the port authority. ● S5 ASIA spoke with the supervisor of S-MPB/MOTC over the phone. The supervisor instructed the shipping agent to inform the ANGEL's owner that they needed to provide the classification society's seaworthiness certificate and photographic evidence related to the water in the cargo holds. After receiving this information, S-MPB/MOTC will discuss the matter.	SAD PIR
1310 - 1340	The ANGEL listed 5 degrees to the starboard side. At 1310 hours, the crew started pumping ballast water. ● At 1340 hours, the crew stopped pumping ballast water.	DLB
1442	S5 ASIA submitted an email to ZULU and the Master (M-1) to discuss the ship's condition. The email stated that "ZULU instructed the ship to remain in the anchorage area and wait for the shipowner's representative and new crew members	SAD

Date/Time	Content Description	Source
	embark the ship before making any decisions."	
1900 - 2000	Increased water ingress in cargo holds no.3, no.4, no.5, no.6. The ANGEL listed to portside/ starboard side every 2 hours. The crew pumping out ballast water.	DLB
07/06		
0200 - 0600	The ANGEL listed to portside/ starboard side every 2 hours. Increased water ingress in cargo holds no.3, no.4, no.5, no.6.	DLB
1325-1355	The ANGEL listed 5 degrees to the portside. At 1325 hours, the crew started pumping ballast water. At 1355 hours, the crew stopped pumping ballast water.	DLB
1900-1920	The ANGEL listed 5 degrees to the portside. At 1900 hours, the crew started pumping ballast water. At 1920 hours, the crew stopped pumping ballast water.	DLB
2220-2250	The ANGEL listed 4 degrees to the portside. At 2220 hours, the crew started pumping ballast water. At 2250 hours, the crew stopped pumping ballast water.	DLB
07/07		
000-0020	The ANGEL listed 5 degrees to the starboard side. At 0000 hours, the crew started pumping ballast water. At 0020 hours, the crew stopped pumping ballast water.	DLB
0520	Increased water ingress in cargo holds no.3, no.4, no.5, no.6.	DLB
1330-1350	The ANGEL listed 4 degrees to the portside. At 1330 hours, the crew started pumping ballast water. At 1350 hours, the crew stopped pumping ballast water.	DLB
1700	Increased water ingress in cargo holds no.3, no.4, no.5, no.6.	DLB
2210-2230	The ANGEL listed 5 degrees to the starboard side. At 2210 hours, the crew started pumping ballast water. At 2230 hours, the crew stopped pumping ballast water.	DLB
07/08		
0130-0145	The ANGEL listed 5 degrees to the portside. At 0130 hours, the crew started pumping ballast water. At 0145 hours, the crew stopped pumping ballast water.	DLB
0610 - 1400	The ANGEL listed 5 degrees to the starboard side.	DLB

Date/Time	Content Description	Source
	The ANGEL listed to portside/ starboard side every 2 hours. The crew pumping out ballast water.	
1100 - 1700	● The ship owner of ANGEL changed the crew (7 crew disembarked and 8 crew onboard), including changed the new Master (M-2) and new chief officer (C/O-2). ● CCME LTD and ZULU technical representatives met at the Hi-Lai Hotel in Kaohsiung to discuss the issue of inspecting holes in the bottom of the ship.	DLB PIR
07/09		
1000-1200	The ANGEL crew performed abandon ship and fire-fighting drills.	DLB
1320-1345	The ANGEL listed 5 degrees to the starboard side. At 0320 hours, the crew started pumping ballast water. At 1345 hours, the crew stopped pumping ballast water.	DLB
1715-1745	Increased water ingress in cargo holds no.3, no.4, no.5, no.6. The ANGEL listed to portside. At 1715 hours, the crew started pumping ballast water. At 1745 hours, the crew stopped pumping ballast water.	DLB
2310-2330	The ANGEL listed 5 degrees to the starboard side. At 2310 hours, the crew started pumping ballast water. At 2330 hours, the crew stopped pumping ballast water.	DLB
07/10		
0100 - 0600	no.3, no.4, no.5 and no.6 of cargo holds flooded, water depth: 0.1/3.8/3.9/0.15 m. The ANGEL listed to portside/ starboard side every 2 hours. The crew pumping out ballast water.	DLB
0800 - 1200	S5 ASIA assisted in arranging for the flag state inspector to perform onboard inspection, and one navigation technician boarded the ship to repair the ANGEL ship radar. S5 ASIA assisted in arranging for CCME LTD to discuss underwater survey matters with the shipowner's representatives.	DLB SAD

Date/Time	Content Description	Source
1200 - 1600	The navigation technician boarded the ship to repair the ANGEL ship radar. Supply ships came to the ANGEL for supplies.	DLB
1400-1430	The ANGEL listed 5 degrees to the starboard side. At 1400 hours, the crew started pumping ballast water. At 1430 hours, the crew stopped pumping ballast water.	DLB
1722	The flag state of Palau notified the INTLREG classification society by email to suspend the certificates related to the ANGEL.	Appendix 9
1830	The flag state inspector left the ship.	DLB
	INTLREG notified the ZULU and the flag state of Palau, in which regarding for suspension of Class/Statutory Certificates M/V ANGEL. Also notified the office of ANGEL in Turkey.	ER
2000 - 2210	The ANGEL anchored, the third officer on duty at bridge. The ANGEL listed to portside/ starboard side every 2 hours. The crew pumping out ballast water.	DLB
2400	The ANGEL anchored, the second officer on duty at bridge.	DLB
07/11		
0000 - 0400	no.3, no.4, no.5 and no.6 of cargo holds flooded, water depth: 0.1/3.9/4.0/0.15 m. The Ship owner representative of ANGEL (Greek) left Taiwan. The generator no. 2 was operating and stopped at 16:20 hours. The generator no. 1 started operating at 16:10 hours.	DLB SAD ELB
0400	The ANGEL anchored, the chief officer on duty at bridge.	DLB
1200	The ANGEL anchored, the second officer on duty at bridge.	DLB
1400	Cargo holds flooded, listed to the portside. The crew pumping out ballast water.	DLB
1600	The ANGEL anchored, the chief officer on duty at bridge.	DLB
2000	The ANGEL anchored, the third officer on duty at bridge. The ANGEL listed to portside/ starboard side every 2 hours.	DLB

Date/Time	Content Description	Source
	The crew pumping out ballast water.	
2400	The ANGEL anchored, the second officer on duty at bridge.	DLB
07/12		
0000 - 0200	no.3, no.4, no.5 and no.6 of cargo holds flooded, water depth: 0.1/4.0/4.1/0.2 m. The ANGEL listed to portside/ starboard side every 2 hours. The crew pumping out ballast water. At 2018 hours, the main engine started; 2304 hours stopped. Generator no. 1 started operating, 1310 hours changed to using diesel oil.	DLB ELB
0625	Cargo holds flooded, listed to the portside. The crew pumping out ballast water.	DLB
0800	The ANGEL anchored, the third officer on duty at bridge.	DLB
1000	Increased water ingress in cargo holds no.3, no.4, no.5, no.6.	DLB
1200	The ANGEL anchored, the second officer on duty at bridge.	DLB
1500 - 1540	The ANGEL listed 5 degrees to the portside. At 1500 hours, the crew started pumping ballast water. At 1540 hours, the crew stopped pumping ballast water.	DLB
1600	The ANGEL anchored, the chief officer on duty at bridge.	DLB
2000 - 2400	The ANGEL anchored, the third officer on duty at bridge. At 2018 hours, the main engine start operating. The ANGEL listed to portside/ starboard side every 1 hours. At 2200 hours, the crew pumping out ballast water. At 2304 hours, the main engine stopped. At 2400 hours the ANGEL anchored, the second officer on duty at bridge.	DLB ELB
07/13		
0000 – 0300	no.3, no.4, no.5 and no.6 of cargo holds flooded, water depth: 0.1/4.1/4.2/0.2 m.	DLB
0400	The ANGEL anchored, the chief officer on duty at bridge.	DLB
0800	The ANGEL anchored, the third officer on duty at bridge.	DLB
0910 - 0930	The ANGEL listed to the portside. At 0910 hours, the crew started pumping ballast water.	DLB

Date/Time	Content Description	Source
	At 0930 hours, the crew stopped pumping ballast water.	
1200	The ANGEL anchored, the second officer on duty at bridge.	DLB
1400-1425	The ANGEL listed 5 degrees to the portside. At 1400 hours, the crew started pumping ballast water. At 1425 hours, the crew stopped pumping ballast water.	DLB
1600	The ANGEL anchored, the chief officer on duty at bridge.	DLB
1700-1725	Increased water ingress in cargo holds no.3, no.4, no.5, no.6. The ANGEL listed 5 degrees to the starboard side. At 1700 hours, the crew started pumping ballast water. At 1725 hours, the crew stopped pumping ballast water.	DLB
2000	The ANGEL anchored, the third officer on duty at bridge.	DLB
2400	The ANGEL anchored, the second officer on duty at bridge.	DLB
07/14		
0000 - 0230	no.3, no.4, no.5 and no.6 of cargo holds flooded, water depth: 0.1/4.3/4.3/0.2 m. The ANGEL listed to portside/ starboard side.	DLB SAD
1310 - 1330	At 1310 hours, the generator no. 2 was operating At 1330 hours, the generator no. 1 stopped.	ELB
0400	The ANGEL anchored, the chief officer on duty at bridge.	DLB
0600	The ANGEL listed to the starboard side /portside.	DLB
0800	The ANGEL anchored, the third officer on duty at bridge.	DLB
0820 - 1515	● 0830 hours, the crew performed firefighting drill. ● 1030 hours, a surveyor of the INTLREG classification society boarded the ship for inspection. ● 1120 hours, a driver of the CCME LTD performed an underwater survey and found no holes in the hull. ● 1330 hours, the diver left the ship. ● 1515 hours, the surveyor left the ship.	DLB SAD
1500-1600	✓ At 1600 hours, the ANGEL anchored, the chief officer on duty at bridge.	DLB
1740	The ANGEL listed to portside/ starboard side every 1 hours.	DLB

Date/Time	Content Description	Source
	The crew pumping out ballast water.	
2000	The ANGEL anchored, the third officer on duty at bridge.	DLB
2130	The ANGEL listed to portside/ starboard side every 1 hours. The crew tried to fix the ballast water system.	DLB
2400	The ANGEL anchored, the second officer on duty at bridge.	DLB
07/15		
0000 - 0230	no.3, no.4, no.5 and no.6 of cargo holds flooded, water depth: 0.1/4.3/4.3/0. m.	DLB
0250	The ANGEL listed 5 degrees to portside/ starboard side every 1 hours. The crew pumping out ballast water.	DLB
0400	The ANGEL anchored, the chief officer on duty at bridge.	DLB
0710 - 0830	0800 hours, the ANGEL anchored, the third officer on duty at bridge. The ANGEL listed to portside/ starboard side every 1 hours. At 0830 hours, the crew started pumping ballast water.	DLB
0900 - 1030	The generator no.2 was operating. At 0900 hours, the generator no. 1 was operating At 1030 hours, the generator no. 1 stopped.	ELB
1200	The ANGEL anchored, the second officer on duty at bridge.	DLB
1218	CCME LTD submitted an email to ZULU and S5 ASIA, stating briefly that: “attached is the video of the inspection conducted on the vessel at anchorage. From hull frame 50 – 165, which was completed. 1. the hull paint shows a lot of areas with missing paint, these areas also have heavy barnacle growth. 2…., from the video, the rust shows it in brown color and corrosion into the metal shows us in silver color. 3… the diver attempted to remove the barnacles at some area of concern but still did not find the puncture leak.”	SAD
1410	The ANGEL listed to portside/ starboard side every 1 hours.	DLB
1600	The ANGEL anchored, the chief officer on duty at bridge.	DLB
1800	The crew continued pumping out ballast water.	DLB
2000	The ANGEL anchored, the third officer on duty at bridge.	DLB

Date/Time	Content Description	Source
2400	The ANGEL anchored, the second officer on duty at bridge.	DLB
07/16		
0000 – 0400	no.3, no.4, no.5 and no.6 of cargo holds flooded, water depth: 0.1/4.3/4.3/0.2 m.	DLB
0400	The ANGEL anchored, the chief officer on duty at bridge.	DLB
0800	The ANGEL anchored, the third officer on duty at bridge.	DLB
1040-1100	The ANGEL listed 5 degrees to the starboard side. At 1040 hours, the crew started pumping ballast water. At 1100 hours, the crew stopped pumping ballast water.	DLB
1148	The Kaohsiung VTS officer communicated with the Officer on Watch (OOW) of the ANGEL to confirm whether the anchor had broken.	VCT
1200	The ANGEL anchored, the second officer on duty at bridge.	DLB
1320 - 1400	The ANGEL listed 3 degrees to the starboard side. At 1320 hours, the crew started pumping ballast water. At 1400 hours, the crew stopped pumping ballast water.	DLB
1500-1525	The ANGEL listed 5 degrees to the starboard side. At 1040 hours, the crew started pumping ballast water. At 1100 hours, the crew stopped pumping ballast water.	DLB
1600	The ANGEL anchored, the chief officer on duty at bridge.	DLB
1700 - 1720	The ANGEL listed 3 degrees to the starboard side. At 1700 hours, the crew started pumping ballast water. At 1720 hours, the crew stopped pumping ballast water.	DLB
2000	The ANGEL anchored, the third officer on duty at bridge.	DLB
2107	The shipowner of the ANGEL informed the S5 ASIA by email that considering the conditions of the ANGEL and the possibility of typhoons in the near future, the shipowner requested to inquire about nearby ports in Taiwan for incoming storm shelter and ship maintenance.	SAD
2115	The ANGEL listed to the portside. At 2115 hours, the crew started pumping ballast water.	DLB
2400	The ANGEL anchored, the second officer on duty at bridge.	DLB

Date/Time	Content Description	Source
07/17		
0000 - 0240	no.3, no.4, no.5 and no.6 of cargo holds flooded, water depth: 0.1/4.3/4.3/0. m. The ANGEL listed 3 degrees to the starboard side. At 0220 hours, the crew started pumping ballast water. At 0240 hours, the crew stopped pumping ballast water.	DLB
0400	The ANGEL anchored, the chief officer on duty at bridge.	DLB
0800	The ANGEL anchored, the third officer on duty at bridge.	DLB
1015 - 1035	The ANGEL listed 3 degrees to the starboard side. At 1015 hours, the crew started pumping ballast water. At 1035 hours, the crew stopped pumping ballast water.	DLB
1200	The ANGEL anchored, the second officer on duty at bridge.	DLB
1600	The ANGEL anchored, the chief officer on duty at bridge.	DLB
1740 - 1800	The ANGEL listed 4 degrees to the starboard side. At 1740 hours, the crew started pumping ballast water. At 1800 hours, the crew stopped pumping ballast water.	DLB
2000	The ANGEL anchored, the third officer on duty at bridge.	DLB
2100	The ANGEL almost lost the seaworthiness, the Master (M-2) notified the ZULU by an email, DLB recorded “Ship almost lost seaworthiness company informed about situation”	DLB
2400	The ANGEL anchored, the second officer on duty at bridge.	DLB
07/18		
0000 - 0240	no.3, no.4, no.5 and no.6 of cargo holds flooded, water depth: 0.1/4.3/4.3/0.2 m.	DLB
0240 - 0300	The ANGEL listed 4 degrees to the portside. At 0240 hours, the crew started pumping ballast water. At 0300 hours, the crew stopped pumping ballast water.	DLB
0400	The ANGEL anchored, the chief officer on duty at bridge.	DLB
0450 - 0510	The ANGEL listed 4 degrees to the portside. At 0450 hours, the crew started pumping ballast water. At 0510 hours, the crew stopped pumping ballast water.	DLB
0800	The ANGEL anchored, the third officer on duty at bridge.	DLB

Date/Time	Content Description	Source
0725 - 1050	At 0725 hours, S5 ASIA submitted an email for ZULU, stating briefly that: “MPB still not allowed vessel emergency to entry in port. …., please ask your P&I representative contact to agent to engage further arrangement.” At 1050 hours, ZULU responded briefly: “this is to request an emergency port call of our vessel ANGEL to Kaohsiung. We are having issues of the water ingress to the ballast system…. please accept this situation as very critical and discuss necessary permissions the authorities asap…..we should need minimum two tugs… FYI, we will let the flag and class know about above request shortly as soon as …”	SAD
1058 - 1110	The Kaohsiung VTS officer once called the ANGEL via VHF, and the Master (M-2) responded briefly: " yeah, actually now the vessel another condition because we have the water into… the cargo hold,.…we have the water inside… because we cannot control with the …water ..inside the tank. …. we cannot pump out….in cargo."	VCT
1200	The ANGEL anchored, the second officer on duty at bridge.	DLB
1300 - 1325	The ANGEL listed 4 degrees to the starboard side. At 1300 hours, the crew started pumping ballast water. At 1325 hours, the crew stopped pumping ballast water.	DLB
1410	The Kaohsiung VTS officer contacted the S5 ASIA and said, "There is currently no place in the port for her to rely on...ask her to go elsewhere for repairs...it seems that 0200 hours is deadline.”	VCT
1500	The ANGEL listed to the portside. The crew pumping out ballast water.	DLB
1600	The ANGEL anchored, the chief officer on duty at bridge.	DLB
1716	The Master (M-2) of ANGEL sent an email to SA ASIA, stating briefly that: “to inform you that the performance of passage of the vessel to any place is considered impossible because seaworthiness of the vessel is missing due to below reason (9 items):….at the moment, the situation is stable, we	SAD

Date/Time	Content Description	Source
	often pump out ballast from one tank. But if it fails, we will also have the risk of a non- return roll and the ship will capsize, which will lead to irreversible consequence. I kindly ask you to send an official request to the port authorities to provide us with an emergency call to the port foe rescue of cargo, ship and crew.”	
1749	S5 ASIA notified the S-MPB/MOTC and the KH-TWPORT [29] by email, but neither of them received this email. The email contained "the reason why the ANGEL requested to enter the port for maintenance."	SAD
2000	The ANGEL anchored, the third officer on duty at bridge.	DLB
2400	The ANGEL anchored, the second officer on duty at bridge.	DLB
07/19		
0000 - 0400	The deck logbook did not record the water flooded in the cargo holds.	DLB
0000 - 0110	The ANGEL listed 5 degrees to the portside. At 0045 hours, the crew started pumping ballast water. At 0110 hours, the crew stopped pumping ballast water.	DLB
0400	The ANGEL anchored, the chief officer on duty at bridge.	DLB
0515 - 0540	The ANGEL listed 4 degrees to the starboard side. At 1515 hours, the crew started pumping ballast water. At 0540 hours, the crew stopped pumping ballast water.	DLB
0800 - 0840	0800 hours, the ANGEL anchored, the third officer on duty at bridge. The ANGEL listed to the portside. At 0820 hours, the crew started pumping ballast water. At 0840 hours, the crew stopped pumping ballast water.	DLB
0939	The KH-TWPORT notified S5 ASIA by fax, with the following information: "1. Our company has received the official rejection of ANGEL’s application for entrance into the port for maintenance from the S-MPB/MOTC... (1) The	SAD PIR

[29] The Port of Kaohsiung Taiwan International Ports Corporation, LTD. (KH-TWPORT)

Date/Time	Content Description	Source
	ship should leave before sunset on July 19, 2020, and move out of the anchorage area to take shelter from the wind... (3) Please report the ballast water pumping situation and bow listing status to the VTC tower at 00:00, 06:00, 12:00, and 18:00 every day."	
1145	The ANGEL listed to the portside. At 1145 hours, the crew started pumping ballast water.	DLB
1200	The ANGEL anchored, the second officer on duty at bridge.	DLB
1342	S5 ASIA contacted Kaohsiung VTS and said, "We are currently discussing the possibility of using a tugboat from Mainland China to pick her up... to find a solution. If she needs to leave in the end... she needs a guard ship to follow her. It's safer together." The VTS officer responded, "Please let the ship navigate to a distance of 12 nautical miles on its own, and then request the tugboat to pick her up."	VCT
1345	S5 ASIA contacted Kaohsiung VTS and said, "She is discussing now, ... The ANGEL will definitely leave. I just want her to stay at anchorage area, probably within the next two days."	VCT
1400	The ANGEL listed 3 degrees to portside/ starboard side every 1 hours.	DLB
1555	S5 ASIA submitted an official letter to the MOTC, with the main purpose of applying for emergency entrance port repairs due to the ANGEL failure (Issue no.: Wu Gao Zi No. 112071902).	SAD PIR
1715	The Kaohsiung VTS officer contacted the Master (M-2) of the ANGEL, the captain responded, " I will heave tomorrow... (the signal is VHF poor)"	VCT
1726 - 1752	The Kaohsiung VTS officer contacted the Master (M-2) of the ANGEL, the captain responded, "we are ready to leave,... there will be tugboats to assist in the next 40 hours."	VCT
1800 - 1820	The ANGEL listed 4 degrees to the starboard side.	DLB

Date/Time	Content Description	Source
	At 1800 hours, the crew started pumping ballast water. At 1820 hours, the crew stopped pumping ballast water.	
1832	The Master of ANGEL (M-2) informed S5 ASIA and ZULU by an email, stating briefly..."we will try to start our ME for leaving anchorage area, but unfortunately we are faced with problem, now all Engine crew try to fix this problem. As soon as we are finished repair works in Engine Room we will inform you accordingly. I kindly ask you to send this information to MBP and Port authorities and in addition to VTS."	SAD
1857	S5 ASIA contacted Kaohsiung VTS, stating briefly, "The Master just informed me that the main engine of ANGEL has a problem and is being troubleshooted. I asked him to report it to VTS." "The main engine of ANGEL will be fine once it starts running. It may not have been operating for the past few days, as it has not been used for the last two weeks."	VCT
2000	The ANGEL anchored, the third officer on duty at bridge.	DLB
2100 - 2125	The ANGEL listed 5 degrees to the portside. At 2100 hours, the crew started pumping ballast water. At 2125 hours, the crew stopped pumping ballast water.	DLB
2240 - 2305	The ANGEL listed to the portside. At 2240 hours, the crew started pumping ballast water. At 1305 hours, the crew stopped pumping ballast water.	DLB
2359	The Kaohsiung VTS officer contacted the Master (M-2) of the ANGEL, asked the Master "ANGEL this is VTS. er... is everything all right now" The Master responded "no, continue repairing " “no we have no any question”	VCT VDR
2400	The ANGEL anchored, the second officer on duty at bridge.	DLB
07/20		
0000 - 0400	The deck logbook did not record the water flooded in the cargo holds. The ANGEL listed to portside/ starboard side every 1 hours. The ANGEL anchored, the chief officer on duty at bridge.	DLB

Date/Time	Content Description	Source
0540 - 0600	At 0542 hours, first time the generator of ANGEL blocked out. The crew cleaned the filters in the oil circuit. At 0547 hours, VDR lost power and stopped recording. At 0552 hours, the emergency generator of ANGEL started; VDR resumed power supply and continued recording.	DLB ELB VDR
0601	The Kaohsiung VTS officer contacted the Master (M-2) of the ANGEL, asked the Master "ANGEL this is Kaohsiung VTS are you still in good condition". The Master responded “yeah we are in very good condition but now engine crew members is working in engine room and they are finding their problems and they are fix problem when we fix the problem we will call you again”	VCT VDR
0620	The backup main engine of ANGEL is started and the ship's status is OK.	PIR
0700	The ANGEL listed 5 degrees to the portside. At 0710 hours, the crew stopped pumping ballast water.	DLB
0800	The ANGEL anchored, the third officer on duty at bridge.	DLB
0810 - 0825	At 0810 hours, second time the generator of ANGEL blocked out, the generator re-started. At 0824 hours, VDR lost power and stopped recording. At 0825 hours, various alarm sounds on the bridge are activated.	DLB ELB VDR
0830	At 0830 hours, lost all of power. The Master (M-2) of ANGEL gave instructions on the bridge that "all crew-everybody ready for emg. Situation." The ANGEL listed 5 degrees to the portside. DLB recording “ballast pump not working.”	DLB PIR
0830 - 0900	S5 ASIA went to meet the senior manager of TW-PORT, to negotiate the emergency entry of the ANGEL.	PIR
0851	The Kaohsiung VTS officer contacted the Master (M-2) of the ANGEL, asked the Master "ANGEL question have you er any tug boat around you for assist you". The Master responded “not now tug boat assistance”.	VCT VDR

Date/Time	Content Description	Source
0921	The owner's representative of ANGEL notified S5 ASIA by WhatsApps, with the text "we have a blackout situation on board. Problem with power. Can't run our ballast pumps. Vessel getting heeled. We need emergency help…It seem Master calls mayday. We need a vessel alongside to give us a power.")	SAD PIR
0931 - 0933	The Master (M-2) of ANGEL contacted the Kaohsiung VTS: "listing to the port approximately in eight …I am informed that I am in the MAYDAY."	VCT VDR
0937	S5 ASIA called Kaohsiung VTS officer: "Is the ANGEL called MAYDAY?" VTS officer responded that: "Your ship said she couldn't control it and wanted MAYDAY."	VCT
0938 - 0945	The Master (M-2) of ANGEL contacted the Kaohsiung VTS officer, "I think no assistance from coast guard but we need to salvage our crew the most important thing this one because this vessel listing to the port we need to disembark the all crew to the same boat and we'll leave the vessel".	VCT VDR
1000 - 1001	The Master of ANGEL contacted the Kaohsiung VTS officer, "for your information ten zero zero local time uh official abandon motor vessel announcement".	DLB VCT VDR
1008	The Master (M-2) of ANGEL contacted the Kaohsiung VTS officer, "Kaohsiung VTS I will inform you that I cannot stay stay more on the bridge. I take the radio and go to the main deck please advise after how many minutes tug assistance tug will come to our boat".	VDR
1009	Master presses GMDSS abandon ship button	VDR
1015	KH-TWPORT established an emergency response team and setup a command post.	TPR
1225	All 19 crew members of the ANGEL were rescued by coast guard CP10032 and P1028 and landed in the port.	TPR
1338	ZULU notified S5 ASIA by email, with the following text: "Assign the Asian Marine Service PCL to assist in the	SAD

Date/Time	Content Description	Source
	rescue."	
1838	The guard ship reported to the VTS officer that the port deck of the ANGEL listed 45 degrees close to the water.	VDR
2309	VDR stopped recording	VDR
07/21		
0019	The ANGEL sunk	TPR
07/21	The TTSB contacted the flag state (Palau), and discuss the marine casualty investigation.	ER
07/21~07/23	The Taipei Mission Control Center did not receive the ANGEL Emergency Positioning Indicating Radio Beacon (EPIRB) signal.	MCC
07/22~ 07/25	Flag state (Palau) agreed to participate with TTSB's investigation. Appoint two technical representatives and provided the ANGEL's related certificates (all valid).	ER
07/26 – 08/24	The TTSB issued an official letter to MPB and requesting the port authorities to assist the salvage of VDR.	ER
08/16 – 08/24	The TTSB, MPB and Maritime company setup a working group to search and salvage the VDR. Aug. 18th diver found the VDR Aug. 19th the VDR transported to TTSB for safekeeping and readout. Aug. 20th three hard disks salvaged from underwater. Aug. 22th three hard disks transported to TTSB for safekeeping and readout.	
10/23 – 10/27	The TTSB investigator hand carry the VDR memory module to MAIB/UK technical assistance and completed the readout task.	VDR

Appendix

Appendix 1 Chief Officer (C/O-1) of the ANGEL Sent a Distress Email

From: @gmail.com>
Sent: Thursday, June 29, 2023 5:27 PM
To: seafarers@itf.org.uk; ethics (MPA) <ethics@mpa.gov.sg>
Subject: Panpan- panpan-panpan

Hi dear all

I am a chief officer of mv angel with ex name ssl ganga.imo 9256406. The vessel change owner on 30.05.2023. All crew joined to vessel on 30.05.2023 in colombo anchorage. There was no pre inspection carried out before the vessel owned. There was no familiarisation, no hand over notes. The systems that they tell us working, actually not working. There are so many problem on this vessel but the main problem is the ship always list side to side by herself and we still dont know why.(i assume there is a hole on the hull) When list exceed 6-7 degrees we make ballast to other side. Ballast remote system is not working. Crew and me always go to the valve chambers and open-close valves manually. Valve chambers are located under the cargo holds they are so small and full with water inside. No matter what time it is we go to valve chambers and come back to pump room and start to make the vessel upright. Also there are many holes in the tanktops. Also there are holes on the tanktops in the cargo holds. When we take ballast the water come inside the cargo holds. This is also serious problem. There are so much water in no3 and No4 cargo holds now. Also so many problem in engine room. Boiler is burned. We are using funnel boiler now . Funnel boiler has too much leakage and it consumes great amount of fresh water everyday. Fresh water capacity 180 mt total consumption is 15mt/day. So destination is st. Petersburg or Tallin. Fresh water generator is not working. When we go china luckly we dropped anchor and supply fresh water in hong kong. But we will be on indian ocean in 12 days. Crew worry about their lives. Nobody wants to be on this vessel anymore. Day by day another problem being occured. Also gm is another problem. Without ballasr our gm is so low. SO OUR LIVES ARE IN DANGER. PLEASE HELP. Manager : zulu shipping- owner: Navramar shipping

Appendix 2 Master (M-2) of ANGEL Informed the Shipping Agent (S5) to Apply for Emergency Port Entry by Email

From: Angel Vessel <angel@zulushipping.com>
Sent: Tuesday, July 18, 2023 5:16 PM
To:)s-5.org>; Dzulushipping.com>
Cc: m@zulushipping.com>; !@zulushipping.c
zulushipping.com>; @zulushipping.com>; S5Asia-TW-KAO Operation <kaohsiung@s-5.org>; S5Asia-TW-TPE Operation <taipei@s-5.org zulushipping.com>
Subject: RE: Port call request to Kaohsiung

Dear Mr.
Good day,

I kindly want to inform you that the performance of passage of the vessel to any place is considered impossible because seaworthiness of the vessel is missing due to below reason:

1.Propulsion qualities
2.Floodability
3.Stable equilibrium (Now is almost neutral equilibrium-danger of capsize)
4.Free surface effect-(Water in cargo holds)
5.Righting lever is more than accept
6.Metacentrci Height(GM)-Not enough
7.Angle of loll
9.Dynamic stability:GZ area to 30 and to 40 less than required

At the moment, the situation is stable, we often pump out ballast from one tank, but if it fails, we will also have the risk of a non-return roll and the ship will capsize, which will lead to irreversible consequence

In connection with the above, I kindly ask you to send an official request to the port authorities to provide us with an emergency call to the port for the rescue of cargo, ship and crew.

Best Regards
Master of m/v Angel
Captain
Email:angel@zulushipping.com

Appendix 3 The Shipping Agent of ANGEL Request for Emergency Entry by Email

寄件者:
寄件日期: 2023年7月18日星期二 下午 5:49
收件者: south01@motcmpb.gov.tw; T01594@twport.com.tw
副本: ; S5Asia-TW-KAO Operation; S5Asia-TW-TPE Operation; ; Angel Vessel
主旨: RE: Port call request to Kaohsiung(天使輪要求進港維修理由)
附件: IntReg Class surveyor report 14.07.2023.pdf

TO : MPB / Supervisor 楊科長
TO : Port authority / Manager

兩位長官好,

天使輪目前停留在二錨區, 因近日海象天候不佳, 無法安排技師及潛水伕前往錨區進行檢修, 目前船長報告該船因下列原因無法開航, 又適逢颱風季, 為了船隻本身及貨物以及船員安全, 需申請進港進行緊急檢修, 該船於進行必要之檢修後會立即開航前往下一港, 謝謝.

Best Regards

S5 AGENCY WORLD

Port Manager, Kaohsiung
S5 Agency World
(As Agents only)

kaohsiung@s-5.org
paul.hsu@s-5.org

S5 Asia Limited Taiwan Branch
5F, No.21, Chung Hwa 3rd Road
Kaohsiung 80145
Taiwan

Appendix 4 Fax Letter from Port Kaohsiung-TIPC to the ANGEL

臺灣港務股份有限公司高雄港務分公司
TIPC PORT OF KAOHSIUNG TAIWAN INTERNATIONAL PORTS CORPORATION, LTD

敬啟者

有關貨櫃輪「天使 ANGEL」(IMO:9256406，16145 總噸) 於 112 年 7 月 4 日 20 時 46 分申請於高雄港第二錨區下錨期間，遭檢舉船舶進水案，說明如下：

1. 本分公司已接獲交通部航港局正式拒絕該輪進港維修申請。
2. 考量本週末將有颱風形成，該輪錨泊位置及船況恐無法因應颱風外圍環流所產生的湧浪或強風，爰請儘速通知該船配合辦理：
   (1) 船舶應於 112 年 7 月 19 日當天日落前，駛離錨區避風。
   (2) 該輪下錨期間，應全時備便主機及守聽無線電，並與本分公司 VTC 塔台保持聯繫。
   (3) 請船方持續維持抽水作業，並請於每天 00:00、06:00、12:00 及 18:00 主動向本分公司 VTC 塔台回報抽水情形、船艏傾斜狀況。

此致

順頌 鈞安

TEL:07-5711369
FAX:07-5720307

高雄港務分公司 船舶交通服務中心 TEL:5711369

Appendix 5 Shipping Agent S5 ASIA Submitted an Official Letter to the MPB

香港商伍航亞洲有限公司台灣分公司　　【函】

地址：8014　　三路 21 號 5 樓
電子信箱：
電　　話：
傳　　真：
承辦人：分

交通部航港局 南部航務中心 112.7.19 收件章

受文者 ： 交通部航港局 南部航務中心

發文日期：中華民國 112 年 07 月 19 日
發文字號：伍高字第 112071902 號

主旨：有關帛琉籍貨櫃船“ANGEL“ 因船隻故障申請緊急進港維修，懇請貴局惠予核准後函覆。

說明 ：

一、 M.V ANGEL 已於 2023 年 7 月 4 號 20:40 於高雄港 2 錨區下錨進行維修補給,因近日氣候多變，海象狀況不良，維修人員無法順利於錨區執行維修工作,今適逢颱風季，船長評估該船現況無法安全航行至下一港並抵禦惡劣氣候，故要求申請緊急進港靠泊合適碼頭以利維修工作進行.

二、 該船主機動力正常，車機操控無虞，可以正常航行進出港，附件為船長聲明書及船籍社驗船報告.

三、 懇請 貴局能准予所請並回覆，讓該船得以順利進港靠泊為荷。

正本：交通部航港局南部航務中心
副本：香港商伍航亞洲有限公司台灣分公司

Asia Limited Taiwan Branch 香港商伍航亞洲有限公司台灣分公司 胡世榮

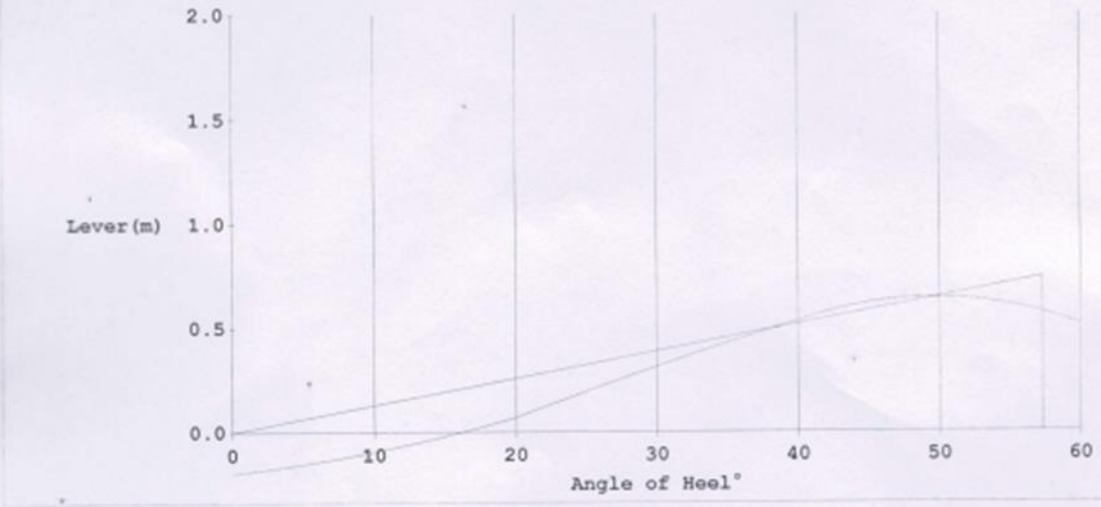
Appendix 6 The Dialogue between Shipowner and S5 ASIA before Abandonment

Appendix 7 ANGEL Deadweight and Stability Details

SSL GANGA : SSL GANGA16-Jul-23 07:51:22
Voyage : Port: (Rotn:0)
Deadweight and Stability Details SW Dens : 1.025

Draft Aft = 10.13 m.		Displacement	= 19,129.33 t.
Draft Lcf = 8.23 m. Draft Mean= 8.08 m.			
Draft Fwd = 6.04 m.		Deck CARGO	= 2,435.40 t.
Trim = 4.09 m.		U~Dk CARGO	= 5,681.20 t.
		Break Bulk	= 0.00 t.
GM Solid = 1.025 m.		Stores etc.	= 10.00 t.
F.S. Corr = 0.285 m.		BALLAST	= 2,702.20 t.
GM Fluid = 0.740 m.		FUEL OIL	= 405.72 t.
KG Fluid = 11.122 m.		DIESEL OIL	= 113.67 t.
		LUB. OIL	= 17.55 t.
Area up to 30° = 0.01 M.Rads		FRESH WATER	= 103.96 t.
Area up to 40° = 0.08 M.Rads		MISC.	= 11.24 t.
Area 30° - 40° = 0.07 M.Rads			
Max GZ = 0.64 M. @ 49.6°		Total DeadWeight	= 11,480.93 t.
Eq. Heel Angle = 16.1° To Stbd			
Wind Heel = 12.92°			

GZ Curve



WARNING * GM is less than required minimum
WARNING * GZ Area to 30° < 0.055 M-Rads
WARNING * GZ Area to 40° < 0.090 M-Rads

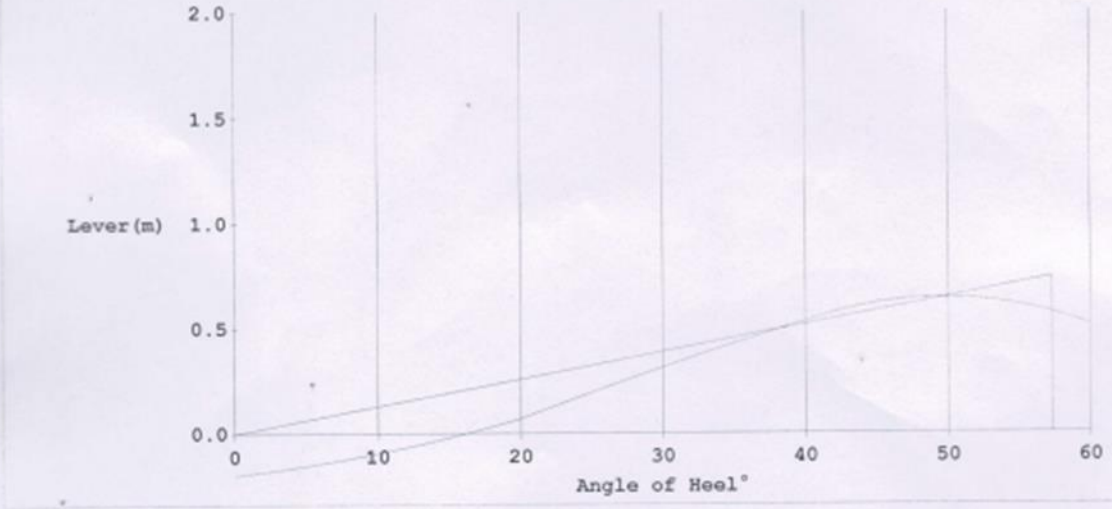
present situation,
Simulated water in Hold N° 4,5 ~ 4,400mt

SSL GANGA : SSL GANGA16-Jul-23 07:51:22
Voyage : Port: (Rotn:0)

Deadweight and Stability Details SW Dens : 1.025

Draft Aft = 10.13 m.		Displacement	= 19,129.33 t.
Draft Lcf = 8.23 m. Draft Mean= 8.08 m.			
Draft Fwd = 6.04 m.		Deck CARGO	= 2,435.40 t.
Trim = 4.09 m.		U-Dk CARGO	= 5,681.20 t.
		Break Bulk	= 0.00 t.
GM Solid = 1.025 m.		Stores etc.	= 10.00 t.
F.S. Corr = 0.285 m.		BALLAST	= 2,702.20 t.
GM Fluid = 0.740 m.		FUEL OIL	= 405.72 t.
KG Fluid = 11.122 m.		DIESEL OIL	= 113.67 t.
		LUB. OIL	= 17.55 t.
Area up to 30° = 0.01 M.Rads		FRESH WATER	= 103.96 t.
Area up to 40° = 0.08 M.Rads		MISC.	= 11.24 t.
Area 30° - 40° = 0.07 M.Rads			
Max GZ = 0.64 M. @ 49.6°		Total DeadWeight	= 11,480.93 t.
Eq. Heel Angle = 16.1° To Stbd			
Wind Heel = 12.92°			

GZ Curve



WARNING * GM is less than required minimum
WARNING * GZ Area to 30° < 0.055 M-Rads
WARNING * GZ Area to 40° < 0.090 M-Rads

present situation,
Simulated water in Hold N° 4, 5 ~ 4,400mt

Appendix 8 Survey Report by Hydor (P&I)

List of defects all ship types

Ship's name:	Angel
Survey type:	Entry Survey
Survey port:	Dalian, China
Date of survey:	24-25 June 2023
Survey company:	T&A Marine Consultants and Surveyors Co. Ltd.
Surveyor:	

Hydor

Each item must be numbered and correspond to the "Survey form" numbering. Photos must support each item.

1. 4.2 The safety meeting had not yet carried out since the Vessel was acquired on 2 June 2023.

   -The SMS Manual had not yet printed out for familiarization and no reading signature record was available on board.

2. 6.1 Latest Class Status was not available on board since the Classification was changed to International Register of Shipping on 2 June 2023. Four Attestation Letters were issued, including the extension of dry dock for special survey, BWMS, CSR and repairing accumulator of rescue boat davit.

3. 7.2 -The bolts and nuts for fire line shore connection flange and vent head for FWT (1P & 2P) were not properly secured.

   -Cable secured bar on the transverse deck between No.5 and No.6 cargo hold was broken.

   The lifting device of the mast on the forecastle was damaged.

   -The window glass in way of E-Deck's stair way was cracked.

4. 7.4 -Portside gangway's aft vertical securing standing (aft) was bent damaged, the handrail was damaged.

   -The brake holder of portside mooring winch (P&S) on poop deck appeared severely corroded and thinned.

   -The mooring ropes were secured on the wrap head of mooring winch on forecastle deck and poop deck.

5. 8.1 The deck cargo crane latest load test was recorded on 31 August 2019. The last thorough examination was on 31 August 2017. The control panel in No.1 deck crane was without indication lamp's cap. The floor plat was holed in No.1 deck crane operation cabinet. Both cranes' save-all appeared oily and dirty.

6. 8.2 The latest record in register book was on 31 August 2019.

7. 10.1 No Main Engine and Aux-Engine running hours information was available on board.

8. 10.3 No fuel oil analysis report was available on board although the Vessel had received fuel oil bunker on 13 June 2023.

9. 10.4 & 10.6 The PLC panel on main switchboard of No.3 D/G was malfunctional, the air starter motor was out of operation.

   No insulation mats were provided for control box in engine room.

   The save-all of aux-engine, fuel supply unit, and the bilge floor in way of aft section appeared oily and dirty.

10. 10.5 The RPM indicator of No.1 T/C of M/E was malfunctional.

11. 10.7 No boiler water test was carried out since the vessel was acquired by the present owners. The aux-boiler was out of operation due to the burner malfunction.

12. 11.1 Material list and crew list in SOPEP locker was not provided.

13. 11.2 The record of change-over to low sulphur fuel was not recorded in related logbook.

14. 12.1 The locker for the Fish/Meat room was temporarily repaired which could not open from internal of the room.

15. 13.1 Company and Master standing order was not yet posted on bridge. The officers'

training record for type specific ECDIS was not available on board.

16. 13.2 The rudder mechanical indicator was not in accordance with the electrical indicator in steering gear room and the bridge.

17. 13.2 Signal light was failed to test at the time of survey.

18. 14.1 Several handrails in No.3, 4 & 5 cargo hold were noted broken. Several lights in bosun store, bow thruster room and transverse walkway were unlit.

19. 14.1 No portable gas detector was supplied on board.

20. 14.4 Smoke detecting system for cargo hold was showed 'Fault' on the panel in fixed CO2 room.

21. 16.1 Cargo hold inspection: Significant water was accumulated in hold No.3 & 5. The evidence showed the ballast water was leaking from No.3 WBT(S).

    -Evidence showed fuel oil had been leaked from No.4 HFO(S) tank to No.4 cargo hold iwo forward bulkhead, oil clean sawdust and residue were noticed at aft of the No.4 hold.

    -Lots of the electrical air ventilations for these three cargo-holds appeared in poor condition with holed on the air tunnel.

    -Access manhole appeared poor condition with severely corroded, lack of open/close level, broken hinges.

    -The mesh for air ventilation was poor condition.

22. 16.2 Hatch cover appeared in poor condition with severely corroded and rust on the rubber grooves, the vertical/ corner of joint section, edge of the hatch panel, corroded and thinned D-rings and sockets and damaged drain channel, pitting and rust of hatch deck plate.

    The transverse walkway handrails and deck plate in way of coaming table appeared corroded, rust and thinner/holed deck plate.

Non-Inspection Item:

23. 9.0 Ballast water tank was not available for inspection due to cargo operation.

24. 16.2 Ultrasonic test for hatch covers were not conducted as the cargo operation was in progress.

Capt. _____ _____ _____

Master signature | Owners' representative signature | Surveyor signature

Appendix 9 Palau Flag State Suspends Relevant Certificate of the ANGEL

From:
Sent: Monday, July 10, 2023 11:22 AM
To:
<To
Cc:
Subject: M/V "ANGEL" - IMO 9256406

***CAUTION:** This email originated from outside of your organization. Do not click links or attachments unless you know the content is safe*

Dear Sirs,

Palau Flag Inspector did attend the subject vessel today (10.07.2023) for carrying out the Flag Inspection on account of verifying the ship's seaworthiness condition following the received notification regarding potential damage in the underwater part of the vessel.

Please be advised that, as was confirmed onboard by the Palau Flag Inspector, the surveyor to International Register of Shipping **did not** attend the ship today, as was agreed.

Also, ship's agents confirmed that the arrangements for appointing diving company to carry out UWS have been almost concluded in order for the UWS to be performed by tomorrow. Thus, it appears there was never an issue for granting permission to arrange the UWS at the ship's current location.

Furthermore, as per the received feedback from the attending flag inspector, major deficiencies have been reported, which up to now can be summarized as follows (we would expect to receive the final survey report and relevant supporting records the soonest):

1. The ship suffers extensive water ingress in Cargo Hold No.4, most probably by hull crack, while the crew members are constantly attempting to pump out the water with pumps.
2. Also, the ship suffers water ingress in Cargo Hold No.5, most probably by hull crack as well,
3. It is apparent that the ingress of water is a result of cracks/holes in double bottom/side ballast tanks, thus the stability of the vessel has been affected by such an incident,
4. The inspector also preliminarily reported that the vessel has only one generator in operable condition and that the emergency generator is not working.

We would like to remind you that surveyor(s) to International Register of Shipping carried out Renewal Statutory Surveys to the vessel on June 04th, 2023, in Colombo, Sri Lanka.

Within the above context, this Administration is requesting from International Register of Shipping to **suspend with immediate effect** the validity of ALL statutory certificate issued on behalf of Palau Flag Administration.

Meantime, we look forward to your further inputs from tomorrow's surveys.

Thank you for your kind attention,

Best Regards,

PALAU INTERNATIONAL SHIP REGISTRY

Technical Department
Palau International Ship Registry

5, Sachtouri Street,
Piraeus 18536, Greece

Contact Us

Appendix 10 INTLREG Inspection Records in Colombo: Identified Deficiencies and Memoranda

On June 2, following the flag state's directives, INTLREG conducted a special inspection and extension survey of the ANGEL in Colombo. The surveyor identified multiple shortcomings, resulting in the identification of 17 deficiencies and the issuance of 5 memoranda, detailed as follows:

17 Deficiencies

1. Vessel Main deck and appurtenances were found rusted. Hatch covers found repaired temporarily with doubles. Hatch coaming found corroded and wasted. Cleats were found missing. Rubber packing found aged/hardened. Complete overhaul of Hatch covers and appurtenances to be repaired to the satisfaction of the IRS Surveyor.

2. Rescue boat emergency operation to be found faulty. To be repaired not later than 5thJuly 2023. Ref Flag state attestation letter.

3. Battery operated telephone non-operational from Bow Thruster room to be repaired.

4. AE No.3 Power Management system display nonoperational. To be rectified.

5. Type Approved Ballast Water Treatment Plant to be fitted on board and function tested. BWMP to be approved.

6. EEXI Calculation and SEEMP III to be approved and provided onboard.

7. Exhaust Gas leaks from the composite boiler to be arrested at the earliest opportunity and system to be made operational in AUTO mode.

8. a. Emergency generator blower flap and limit switch to be made functional.

b. Steering gear vent flap found frozen in open position.

Oxygen room vent flap is wasted.

c. Lashing Bridges on deck were found corroded wasted.

9. Sewage treatment Plant internal examination to be carried out in Dry Dock.

10. Fuel oil Sampling point(s) for taking representative samples of fuel oil being used onboard the (in-use fuel oil) in accordance with MEPC.1/Circ.864/Rev.1 is to be fitted not later than 2023-09-30.

11. New SOPEP sighted onboard and to be approved by IRS.

12. Cargo holds to be inspected and certified safe electrical equipment to be verified as per DG certificate.

13. One light cover was found damaged.

14. Broken lights in no.1 cargo holds to be repaired.

15. No DG Cargo to be carried until repaired.

16. Cargo hold bilge system to be operation tested prior loading cargo

17. Oxygen/ explosive meters to be provided onboard at the first opportunity.

5 Memoranda:

1. Based on the surveyor report, remaining part of special class surveys, renewal statutory surveys and, the dry-dock surveys to be completed before September 30, 2023.

2. General examination with underwater survey (bottom inspection) to be carried out at the first convenient port and/or anchorage area not later than July 10, 2023.

3. ISM additional audit to be carried out at the first convenient port and/or anchorage area not later than July 10, 2023.

4. Special/Renewal of Class Hull and Machinery, Safety Construction, Ballast Water and bottom survey has not been credited and pending follow up surveys.

5. Survey for rectification of the Outstanding - Recommendations to be carried out at the first convenient port and/or anchorage area not later than July 10, 2023.

Appendix 11 The VDR Transcripts of ANGEL

ANGEL	：duty officers of the ANGEL
DECK	：The bridge audio recording of the ANGEL
Keelung Radio	： Keelung Radio Station
Coast Guard NO.10032	：Coastguard Rescue Boat no. 10032
other ship	：Other ships near the Kaohsiung Port
TIPM NO.13402	：TIPM tugboat no. 13402
VTS	：VTS officers at the Kaohsiung VTS
…	：Unintelligible
（ text）	：VDR fault message or remark by TTSB’s investigator

... listing to the port approximately in eight …and increased we need then emergency salvage the crew from this vessel and in this message I am inform that I am in the MAYDAY

VDR+8hr	Source	Context
July 19th		
23:27:47		（start recording of VDR audio）
23:59:15	VTS	angel angel vts
23:59:24	ANGEL	kaohsiung vts this is motor vessel angel
23:59:26	VTS	angel this is vts. er... is everything all right now
23:59:35	ANGEL	no, continue repairing
23:59:39	VTS	clear so er do you have any question or any unusual
23:59:52	ANGEL	no, we have no any question
23:59:55	VTS	so everything is fine copy that... keep standing by thank you
July 20th		
00:00:00	ANGEL	ok stand by 11
05:47:52	DECK	（background noise reduced with multiple warning beeps until 05:48:30）
05:47:55	VDR	（VDR alarm: VDR power fail triggered）
05:48:09	DECK	… （crew internal communication via walkie talkie）
05:52:29	VDR	（VDR alarm: VDR power fail cleard）
05:52:30	DECK	（multiple warning beeps until 05:56:18）
06:01:18	VTS	angel angel kaohsiung vts angel

VDR+8hr	Source	Context
06:01:28	ANGEL	angel kaohsiung vts go ahead
06:01:30	VTS	angel this is kaohsiung vts are you still in good condition
06:01:35	ANGEL	yeah yeah we are in very good condition but now engine crew members is working in engine room and they are find their problems and they are fix problem when we fix the problem we will call you again
06:01:49	VTS	roger 11 please stand by angel
06:01:52	ANGEL	ok stand by 16, 11
08:17:40	DECK	（multiple warning beeps until 08:18:45）
08:24:08	DECK	（multiple warning beeps until 08:25:07）
08:24:13	VDR	（VDR alarm: VDR power fail triggered）
08:24:14	VDR	（VDR alarm: VDR power fail cleard）
08:24:15	VDR	（VDR alarm: VDR power fail triggered）
08:25:42	ANGEL	DECK （continuous warning sound- 13 sec）
08:25:59	ANGEL	DECK （continuous warning sound- 8 sec）
08:27:04	ANGEL	DECK （continuous warning sound- 2 sec）
08:29:00	ANGEL	DECK （continuous warning sound- 10 sec）
08:30:43	VDR	（VDR alarm: VDR power fail cleard）
08:31:02	ANGEL	DECK （continuous warning sound- 25 sec）
08:51:49	VTS	motor vessel angel angel kaohsiung vts calling
08:52:00	VTS	motor vessel angel angel call sign
08:52:12	VTS	motor vessel angel angel call sign
08:52:19	ANGEL	kaohsiung vts this is motor vessel angel
08:52:21	VTS	angel question have you er any tug boat around you for assist you
08:52:33	ANGEL	not now tug boat assistance
08:52:36	VTS	roger not now roger and please report kaohsiung vts when around one two twelve o'clock report kaohsiung vts
08:52:46	ANGEL	ok ok
09:09:15	DECK	（crew communication until 09:31:30）

VDR+8hr	Source	Context
09:23:43	DECK	（cell phone 1 ringing）
09:26:35	DECK	（cell phone 2 ringing）
09:30:20	DECK	（cell phone 2 ringing）
09:30:28	DECK	（pick up cell phone 2 speaking Azerbaijani）
09:31:34	ANGEL	…vts traffic kaohsiung vts kaohsiung vts angel
09:31:46	VTS	go ahead
09:31:48	ANGEL	kaohsiung vts kaohsiung vts angel
09:31:52	VTS	angel go ahead
09:31:54	ANGEL	kaohsiung vts this is motor vessel angel we are now in very critial situation we are totally black out
09:32:01	ANGEL	... listing to the port approximately in eight …and increased we need then emergency salvge the crew from the this vessel and in this message i am inform that i am in the mayday
09:32:15	VTS	uh please repeat your last message
09:32:17	ANGEL	i inform you that now the vessel listing to port we can not control it. we can not control it i need a urgent assistance for the salvage the crew. and in this message i inform you that i'll give you the offical mayday mayday mayday
09:32:35	VTS	roger please stand by
09:33:18	VTS	angel angel kaohsiung vts
09:33:22	ANGEL	kaohsiung vts angel
09:33:24	VTS	angel this is kaohsiung vts can you confirm again your ship
09:33:29	ANGEL	ya we confirm that the situation on the ship is now the critical to have at least eight degrees to the port and this continue to increase
09:33:44	VTS	eight degrees to port over
09:33:48	ANGEL	sorry
09:33:50	VTS	can you repeat again vts
09:33:53	ANGEL	did not copy your last message could you repeat
09:33:56	VTS	can you repeat again your last message
09:34:00	ANGEL	yeah i said you that now the vessel in critical situation the vessel listing to the port now our list approximately eight nine

VDR+8hr	Source	Context
		degrees and we can not control it continue proceed to the portside
09:34:15	VTS	continue to the portside
09:34:19	ANGEL	yes yes it is continue to proceed to portside and we can not control it
09:34:24	VTS	... standby message
09:35:47	DECK	（cell phone 1 ringing）
09:38:08	ANGEL	kaohsiung vts kaohsiung vts angel
09:38:14	VTS	angel go ahead
09:38:16	ANGEL	yes ma'am uh one more time you receive my information …. you arrange the assistance for the …. take control from the from the landing … crew come to the vessel please
09:38:28	VTS	a-yeah i … we now contact the assistance for you so please standby …for ah you…
09:38:47	ANGEL	kaohsiung vts angel please repeat your last message one more time please
09:38:53	VTS	yes we contact the assistance for you so please do your best to control your vessel
09:39:05	VTS	angel did you copy my mes... last message
09:39:09	ANGEL	no no because so many speaking in the channel i can not copied your message please
09:39:18	VTS	angel kaohsiung vts contact the assistance for you so please do your best control your vessel did you copy
09:39:27	ANGEL	yeah yeah we will try to con... to control but is very hard because we not have any power to push and to make the list back to ... vessel
09:39:40	VTS	ok we immediately to contact the assistance for you
09:39:45	ANGEL	ok thank you very much thank you very much
09:41:06	VTS	angel angel kaohsiung vts
09:41:12	ANGEL	kaohsiung vts angel
09:41:13	VTS	ah this is kaohsiung vts ah do you need any assistance from coast guard
09:41:22	ANGEL	I think no assistance from coast guard but we need to salvage our crew the most important thing this one because this vessel

VDR+8hr	Source	Context
		listing to the port we need to disembark the all crew to the same boat and we'll leave the vessel
09:41:45	VTS	uh angel angel kaohsiung vts
09:41:49	ANGEL	kaohsiung vts angel
09:41:51	VTS	is all crew ready on the deck now
09:41:55	ANGEL	yeah actually we start to prepare all crew to get off from the vessel the third mate and me chief officer and chief engineer still we try to keep person on the water and to put in the right forward position
09:42:04	DECK	（cell phone 1 ringing）
09:42:15	VTS	oh okay standby　stand…
09:42:19	DECK	（pick up cell phone 1 speaking English） yes
09:42:20	VTS	angel angel kaohsiung vts
09:42:20	DECK	（cell phone 1）yes yes hello yes yes go ahead
09:42:24	ANGEL	kaohsiung vts angel reply
09:42:27	VTS	this is kaohsiung vts may i know how many crews onboard now
09:42:32	ANGEL	one nine one nine including captain
09:42:36	VTS	one nine crew onboard including master over
09:42:37	DECK	（speaking in cell phone 1） no my engine in not working condition in not working condition
09:42:39	ANGEL	yes
09:42:43	DECK	（speaking in cell phone 1）yes because we have the problem to ….
09:42:52	DECK	（speaking in cell phone 1） ye yeah i need a tug boat to salvage my crew
09:43:13	DECK	（speaking Azerbaijani until 09:44:19）
09:44:19	VTS	angel angel kaohsiung vts
09:44:27	ANGEL	kaohsiung vts angel
09:44:28	VTS	so are you abandon ship now
09:44:33	ANGEL	not now we will try to keep but as soon uh some tug boat come on vessel we will abandon the ship
09:44:49	VTS	oh angel kaohsiung vts

VDR+8hr	Source	Context
09:44:53	ANGEL	kaohsiung vts angel
09:44:57	VTS	please try your best to control the ship over
09:45:01	ANGEL	sorry
09:45:06	VTS	try your best control your ship over
09:45:08	ANGEL	sorry i did not copy your last message could the same one ??? please
09:45:16	VTS	angel kaohsiung vts
09:45:19	ANGEL	kaohsiung vts angel
09:45:21	VTS	can you try to control the ship
09:45:34	ANGEL	we will try
09:45:36	ANGEL	but anyway we need to disembark get the??? our crew please send uh send the tug boat for assistance to disembarkation??? our crew
09:45:38	DECK	（cell phone 2 ringing）
09:45:41	DECK	（pick up cell phone 2 speaking Azerbaijani）
09:45:45	VTS	uh copy your message um please keep standby channel one one, one six. if you really abandon your ship give me a call of first over
09:45:55	ANGEL	okay
09:46:14	VTS	angel angel kaohsiung vts
09:46:19	ANGEL	kaohsiung vts angel
09:46:22	VTS	how many diesel oil onboard now
09:46:25	ANGEL	we have nineteen crew including captain
09:46:28	VTS	ah tanker oil your oil
09:46:44	VTS	angel angel kaohsiung vts
09:46:45	DECK	（speaking in Azerbaijani）
09:46:48	ANGEL	kaohsiung vts angel
09:46:50	VTS	confirm your oil oil onboard
09:46:54	ANGEL	yeah all nineteen crew onboard
09:47:01	other ship	diesel oil my friend diesel oil d o
09:47:07	ANGEL	ah one minute ... onboard

VDR+8hr	Source	Context
09:47:10	DECK	（speaking in Azerbaijani）
09:48:38	ANGEL	kaohsiung vts kaohsiung vts motor vessel angel
09:48:43	VTS	angel kaohsiung vts
09:48:45	ANGEL	for information our r.o.b. onboard the… low very low sulfur oil… is three nine three point four metric tons
09:48:58	ANGEL	DECK （continuous warning sound- 2 min 45 sec）
09:49:02	VTS	three nine three point four is that correct
09:49:05	ANGEL	yes this is correct this is the low sulfur fuel oil
09:49:13	VTS	low sulfur oil
09:49:17	ANGEL	low sulfur fuel oil
09:49:20	DECK	（speaking in Azerbaijani）
09:49:38	ANGEL	angel kaohsiung vts
09:49:40	ANGEL	kaohsiung vts angel can i continue
09:49:43	VTS	...oil onboard
09:49:45	ANGEL	sorry
09:49:46	VTS	other type other type oil
09:49:49	ANGEL	yeah we have the m.g.o. madam m.g.o. total quantity ninety eight point one metric tons
09:50:01	VTS	ninety eight point one?
09:50:03	ANGEL	m.g.o. is ninety eight point one
09:50:08	VTS	m.g.o. nighty eight point one
09:50:14	ANGEL	yes correct
09:50:16	VTS	ok stand…
09:50:29	DECK	（speaking in Azerbaijani）
09:51:19	ANGEL	kaohsiung vts kaohsiung vts angel
09:51:22	VTS	angel go ahead
09:51:24	ANGEL	the remained oil is the cylinder oil one point two and lube. oil one… zero point three four eight
09:51:34	VTS	uh what is your uh please repeat your last message what type what oil is one point eight and the other oil is zero point three four eight

VDR+8hr	Source	Context
09:51:44	ANGEL	yes this is correct
09:51:46	VTS	uh what type what type oil
09:51:49	ANGEL	one is the cylinder oil and another one is the lube. oil
09:52:00	VTS	angel confirm lube oil zero point three four eight metric tons over
09:52:08	ANGEL	yes i confirm zero point three four eight not metric tons this is the liter which means three four eight liters
09:52:22	VTS	ok copy
09:52:44	VTS	angel and what type of the oil is one point two what type of the oil is one point two
09:52:50	ANGEL	one point two is the cylinder oil cylinder oil
09:52:58	VTS	cylinder oil is that correct
09:53:00	ANGEL	yes cylinder cylinder
09:53:21	DECK	（speaking in Azerbaijani）
09:56:01	VTS	同業興這是高雄 vts 你旁邊那個 angel 她是不是有傾斜啊（hey TONG YEH HSING this is Kaohsiung VTS is the ANGEL near you she is listed）
09:56:07	other ship	我旁邊的 angel 在我的哪裡 （where is the ANGEL near to me）
09:56:12	VTS	現在在你的左後方左後方 （now on your rear portside rear portside ）
09:56:15	DECK	（cell phone 2 ringing）
09:56:17	other ship （TONG YEH HSING）	她沒有速度餒 （he has no speed）
09:56:20	VTS	對啊她在錨地裡面 啊你幫我看一下她的那個狀況是不是傾斜的 向左傾斜 （yes she is in the anchorage please help me see if she is listing to the portside）
09:56:28	other ship	對向左傾向左傾 （yes she is listing to portside listing to portside）
09:56:31	VTS	啊她大概是傾的非常的厲害嗎 （ah maybe she is very seriously listing to portside）

VDR+8hr	Source	Context
09:56:34	other ship	Chinese translation（yes because the swell is relatively big the heeling is not necessarily certain but if she continues go to the portside continues go to the portside continue）
09:56:42	VTS	Chinese translation（ok continue to the portside copy thank you）
09:56:45	other ship（TONG YEH HSING）	Chinese translation （thank you）
09:58:06	DECK	（one beep sound）
09:58:09	DECK	（one beep sound）
09:58:11	DECK	（three beep sound）
09:59:33	DECK	（one beep sound）
10:01:00	ANGEL	kaohsiung vts kaohsiung vts motor vessel angel
10:01:05	VTS	go ahead
10:01:06	ANGEL	for your information ten zero zero local time uh official abandon motor vessel announcement
10:01:16	VTS	so now you one zero zero zero abandon ship
10:01:23	ANGEL	yes one zero zero zero abandoning abandon vessel announcement all crew will be collected on the muster station and wait for the tug boat
10:01:39	VTS	ah angel kaohsiung vts confirm all crew on the lifeboat now
10:01:46	ANGEL	no not in the lifeboat all crew on the muster station and wait for the tug assistance how do you copy
10:01:53	VTS	ok copy
10:03:16	VTS	angel angel kaohsiung vts
10:03:21	ANGEL	kaohsiung vts angel
10:03:23	VTS	this is the vts for information the tugboat will underway soon so please hold the at the on the deck wait tugboat they will assist you entering kaohsiung port
10:03:41	ANGEL	sorry could you repeat one more time
10:03:46	VTS	angel kaohsiung vts
10:03:48	ANGEL	kaohsiung vts angel repeat your last message please

VDR+8hr	Source	Context
10:03:51	VTS	this is kaohsiung vts for information your agent has arrange tug boat to assist you going to kaohsiung port so please standby stanby tug boat will arrive soon over
10:04:04	ANGEL	for the towing this not possible because vessel continue list uh... continue listing so we can not uh heave up the anchor we need to salvage crew not to towing the vessel
10:04:17	VTS	standby
10:04:20	VTS	angel kaohsiung vts so can you can you heaving anchor now?
10:04:26	ANGEL	no i can not heave up anchor because i am fully black out i can not heave up anchor i can not moving the vessel only things now … can we do is just leave the vessel how can you … understand … with
10:04:39	VTS	ok standby
10:06:17	ANGEL	kaohsiung vts kaohsiung vts angel
10:06:22	VTS	angel go ahead
10:06:24	ANGEL	could you please advise uh approximately left how many minutes is tug come to our …
10:06:31	VTS	what is your intention
10:06:34	ANGEL	what does mean what is our intention i say about my intention approximately 20 minutes before we want to leave the vessel. i already give the abandoning abandon to the vessel announcement.
10:06:49	VTS	angel angel kaohsiung vts
10:06:53	ANGEL	kaohsiung vts angel
10:06:56	VTS	this is kaohsiung vts so all crew in ... the lifeboat now
10:07:03	ANGEL	we can not put our lifeboat we stay on the deck and wait for the tug assistance i repeat one more time we can not put our lifeboat we stay on the deck and wait for the tug assistance how do you copy
10:07:17	VTS	um i copy for information agent has arrange tug boat tug boat to assist you so please stanby stanby over
10:07:26	ANGEL	yeah for information i can not stay standby ... the bridge. in this way i will switch uh i will take the radio and wait ... the

VDR+8hr	Source	Context
		crew on the main deck and please advise approximately left how many minutes is the tug will come on the boat
10:07:48	VTS	ah angel kaohsiung vts. can you repeat your last message
10:07:52	ANGEL	kaohsiung vts i will inform you that i can not stay stay more on the bridge i take the radio and go to the main deck please advise after how many minutes tug assistance tug will come to our boat
10:08:17	ANGEL	vts system we need immediately tug boat
10:08:21	VTS	angel angel kaohsiung vts
10:08:25	ANGEL	kaohsiung angel go ahead
10:08:27	VTS	does copy my last message the tug boat will arrive around thirty to sixty meter minutes over
10:08:35	ANGEL	kaohsiung this is uh… this this time so much i can not think that we will stay these time … we can not survive this time… could you arrange from the nearest vessel send the rescue boat or something to helping these crew
10:08:51	VTS	i try to contact your agent
10:08:57	ANGEL	yah confirm this to my agent directly no need to speak this to me from now you can speak with... the my agent directly about all necessary items
10:09:08	DECK	（speaking in Azerbaijani）
10:09:43	DECK	（Captain presses GMDSS abandon ship button）（船長按下 GMDSS 棄船按鈕）
10:10:17	ANGEL	DECK （1 continuous warning sound）
10:10:39	ANGEL	DECK （multiple continuous warning sound - 13 hr 7 min 26 sec until end of the record）
10:11:29	Keelung Radio	angel angel keelung vts... keelung vts ... calling
10:12:08	Keelung Radio	call sign tango eight alpha four two nine five angel angel keelung... vts radio calling coming please
10:14:36	Keelung Radio	id number 511101057 call sign delta tango 8 alpha 4295 call sign tango 8 alpha 4295 ship's name angel keelung radio keelung radio calling coming please

VDR+8hr	Source	Context
10:25:54	Keelung Radio	call sign tango eight alpha four two nine five angel angel keelung radio calling coming please
10:26:05	unknow	you contact with channel one one
10:53:14	TIPM NO.13402	Chinese translation（kaohsiung vts this is 13402 calling）
10:53:22	VTS	13402 這 311 請講 （13402 go ahead）
10:53:26	TIPM NO.13402	Chinese translation （ i'm on the starboard side of the angel now and she is currently listing to the portside）
11:25:15	Coast Guard NO.10032	Chinese translation（kaohsiung vts kaohsiung vts this is the coast patrol boat10032 calling）
11:25:20	VTS	Chinese translation （10032 go ahead）
11:25:21	Coast Guard NO.10032	Chinese translation （now that we have rescued all the crew, I may tow one of their life rafts back first will the other one allow our tugboat to tow it in too）
11:25:45	VTS	10032 你們已經救起其中 8 個嗎（10032 have you rescued 8 of them ）
11:25:58	Coast Guard NO.10032	Chinese translation （yes there are 11 crew onboard on the 10032 boat and the other 8 crew onboard smaller boat of the CP1028）
18:38:40	guard ship	Chinese translation （now she is listed...the portside portside are already touching the water surface almost 45 degrees）
21:53:27	other ship	Chinese translation （that container has fallen a lot now… almost 10）
23:18:05		end recording of vdr

Attachment

The following three attachments are provided by the national judicial authority and are not included in the published information.

Attachment 1 Related photos and video provided by the Chief Engineer

Attachment 2 Photo provided by ANGEL's AB A

Attachment 3 Photo provided by ANGEL's AB B