舟山市拍船网船舶
评估咨询有限公司

TECHNICAL REPORT

CJPG-JS-23-KY-692

HAO YING YUN 7

Inspection place　Zhoushan, China

Inspection date　December 6th, 2023

Technical Report

Entrusted by the customer, our company organizes the surveyor to inspect the technical condition of "HAO YING YUN 7" and issue the technical report according to the ship data provided by the customer. The report reflects the ship's technical status at the time of inspection and is for reference only. In case of any discrepancy, the current situation of the ship shall prevail, and our company shall not assume legal liability. The specific report is as follows:

Overall Grade	
4.1	Fair to good
Grade	Level
＞4.5	Good
4.0-4.5	Fair to good
3.0-4.0	Fair
＜3.0	Poor

Principal Particulars	
Ship Name	HAO YING YUN 7
IMO	9351828
Type of Ship	Tug
Port of Registry	Ningbo, China
Class	CCS
Trading Area	A1+A2+A3
LOA	68.00 m
LPP	60.00 m
MLB	16.40 m
MLD	7.20 m
Design Draft	5.20 m
GRT/NRT	GT 2660，NT 798
Deadweight	2804 t
LDT	2024 t
Date of Keel Laying	July 13th, 2006
Date of Delivery	January 15th, 2007
Shipbuilder	Universal Shipbuilding Corporation, Keihin Shipyard（Japan）
M/E Manufacturer	Wartsila Finland OY

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Model of M/E	9L32
Rated Power/Rated Speed/No.	4500kW×750r/min×2 sets
Propeller	CPP Propeller in Kort Nozzle
Bow thruster	RR Kamewa TT1850，1×800kW
Stern thruster	RR Kamewa TT1650，1×590kW
Deck Area	380 m^2
Deck Size	27.0 m × 13.3 m
Bollard Pull	156t
Towing Winch	Double drum waterfall Brattvaag SL300/ BSL300W
Towing Drum	Wire diameter 76mm x 1500m length
DPS	N/A
External Fire Monitor	600m^3/h ×2 sets
FO Tank	1883.53 m^3
DO Tank	208.76 m^3
FW Tank	193.75 m^3
BW Tank	978.45 m^3
Minimum safe manning	14 Persons

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Overview

1. Class Notation

★ CSA Tug

★ CSM

2. Engine Machinery

Machinery	NO.	Model	Manufacturer
Anchor	2	AC14 HHP 1710Kg Anchor	--
Windlass	2	Dia. 38 mm x 880 m U3 studlink anchor chain	--
Deck crane	1	SWL 2t @14m Hyd Telescopic TTS GPT 80-2-14	--
Towing winch	2	SWL 20 te RECW3-20/610 Dia. 26mm x 200m	--
Winch	2	SWL 10 te HCAS-10/450 Electro Capstan	--
Fire monitor	2	600m3/h @120m	--
M/E	2	4500kw@750rpm Wartsila 9L32	Wartsila
NO.1 Main Generator	1	300kw Leroy LSAM47.2M7	Leroy
Prime mover of NO.1 Main Generator	1	MAN D2876LE301	MAN
NO.2 Main Generator	1	300kW SB-HW4.D-400	Kungfu SCI-TECH
Prime mover of NO.2 Main Generator	1	440kW 6M33CD484E200	Baudouin
Emergency Generator	1	75kW×420V	LINGENBERG
Prime mover of Emergency Generator	1	90kW MAN D0824LE201	MAN
Shaft Generator	2	1200kw 420V/50Hz DSG74L2-4W	NEWAGE AvK Romania SA
Bow thruster	1	12te thrust @ 800kw RR Kamewa TT1850	ROLLS-RYOCE Kamewa

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Stern thruster	1	9.2te thrust @ 590kw RR Kamewa TT1650	ROLLS-RYOCE Kamewa
Sewage treatment plant	1	Taiko Kikai SBT40 SCT-200P	--
Main Air Compressor	2	22m3/h Sanwa S8A 2 stage Air cooled	--
Auxiliary Air Compressor	1	30m3/h Sanwa S10A 2 Stage Air cooled	--
Oil purifier	1	Alfa Laval SA821	--
Oil Water Separator	1	15-ppm Taiko Kikai USH-05	--

3. Bridge Equipment

Equipment	NO.	Model	Manufacturer
S-Band Radar	1	FAR 2117S	Furuno
X-Band Radar	1	FAR 2137S	Furuno
Autopilot	1	PR-6000	Tokimec
Magnetic Compass	2	SH-165A1	Tokimec
Gyro Compass	1	TG-8000 /8500	Tokimec
Echo Sounder	1	FE-700 with repeater FE--720	Furuno
AIS	1	FA-150	Furuno
NAVTEX	1	NX-700 with printer NX-700A	Furuno
Weather Facsimile	1	FAX-410	Furuno
Anemometer	1	N-52+8205	Nippon Electric
Speed Log	1	DS-80	Furuno
RBN-DGPS	1	MD-550	Furuno
GPS	2	GP-150	Furuno
ECDIS	1	Navi-Sailor 4000	TRANSAS
IMMARSAT Comm C	1	FELCOM 15	Furuno
SSB	1	FS2570C / HS2001	Furuno
VHF DSC	2	FM8800S	Furuno

EPIRB	1	THRANE SE406-11 / Ocean Signal S100	--
TWO-WAY VHF	3	HT649	ENTEL
TWO-WAY VHF	2	HT944	ENTEL
BNWAS	1	ADO-001	Tokyo Keiki
Handheld Radio Equipment	5	GP328	Motorola
Broadcasting System	1	OHE-3167A	Nippon Hakuyo
Automatic Telephone	1	OAE-7116	Nippon Electronic
CCTV	1	Anchor Handling & Bridge watch	--

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Technical status

1. Certificate and Inspection

Certificates Description	Authority	Issue Date	Expiry Date
Certificate of Registry	China MSA	2022.09.15	--
Certificate of Nationality	China MSA	2022.10.11	2027.10.10
Minimum Safe Manning Certificate	China MSA	2022.10.12	2027.10.10
Classification Certificate	CCS	2022.10.08	2027.01.14
International Tonnage Certificate	CCS	2022.10.08	--
International Load Line Certificate	CCS	2022.10.08	2027.01.14
Cargo Ship Safety Construction Certificate	CCS	2022.10.08	2027.01.14
Cargo Ship Safety Equipment Certificate	CCS	2022.10.08	2027.01.14
Cargo Ship Safety Radio Certificate	CCS	2022.10.08	2027.01.14
International Oil Pollution Prevention Cert.	CCS	2022.10.08	2027.01.14
International Sewage Prevention of Pollution Cert.	CCS	2022.10.08	2027.01.14
Statement of Garbage Pollution Prevention From Ships	CCS	2022.10.08	2027.01.14
International Air Prevention of Pollution Cert.	CCS	2022.12.05	2027.01.14
Document of Compliance for Crew Accommodation Equipment	CCS	2022.10.08	--
International Ballast Water Management Cert.	CCS	2022.10.08	2027.01.14
International Energy Efficiency Certificate	CCS	2023.02.18	--
Certificate of Bollard Pull	LR	2022.10.08	--

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Certificate of Test and Examination of Lifting Appliance	CCS	2022.10.08	--
Certificate of Test and Examination of Loose Gear	CCS	2022.10.08	--

Concerns:

1. The last annual survey has been completed on February 18th, 2023, and the next annual survey/intermediate survey will be carried on January 24th, 2024.

2. Except for the newly replaced prime mover of main generator, which meets the Tier II for NOx emission, all other main engines and prime mover meet the Tier III.

3. The BWTS of model LS-150 has been installed on June 13th, 2022.

4. During the inspection, the surveyor did not see the PSCO record on board.

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2. Speed and Fuel Consumption

The fuel oil used by the M/E is MGO

Speed (kn)	Fuel consumption (t/d)
Maximum speed 14.5kn	46（100%MCR）
Service speed 13.0kn	38（85%MCR）
Service speed 11.0kn	31（70%MCR）
Economical speed (Half Ahead) 9.0kn	23（57%MCR）
Low speed (Slow Ahead) 6.0kn	21（52%MCR）

Note: The HFO can also be used by the M/E.

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3. Galley & Accommodation

No.	Description	Good	Fair to good	Fair	Poor
1	The number and size (including height) of crew rooms comply with the requirements of the convention.	☐	☒	☐	☐
2	The crew room has good lighting and ventilation conditions, and the air conditioning can work normally.	☐	☒	☐	☐
3	The bathroom facilities in the crew room.	☐	☒	☐	☐
4	The ship has a specialized medical room on board, with basic medical equipment, drugs, and guidelines.	☐	☐	☐	☐
5	The ship has a lounge on board, with intact furniture such as floors, ceilings, and sofas.	☐	☒	☐	☐
6	The ship has a conference room and a library, with complete facilities	☐	☐	☐	☐
7	Cleanliness of mess room and galley	☐	☒	☐	☐
8	No significant oil stain on the galley range hood and ventilation ducts. The cleanliness in the galley was found average and garbage has not been classified for storage.	☐	☒	☐	☐
9	The refrigeration equipment in the storage room was found in good condition and the refrigeration temperature was appropriate, and the door handle and alarm were in normal use.	☐	☒	☐	☐

Note: The above inspection items were found in "Fair to good" level overall.

Concerns:

1. This ship can accommodate 36 people, with 16 rooms with bathrooms, 6 single rooms/5 double rooms/5 4-person rooms.

2. This ship has one office and control room, 2 medical rooms with bathrooms, 1 kitchen, two messes, as well as a lounge, gym, and laundry room.

4. Lifesaving Equipment

No.	Description	Good	Fair to good	Fair	Poor
1	The rescue boat has a good appearance, with clear markings such as the ship name and IMO number, and was properly stored.	☐	☒	☐	☐
2	The crane motor of the rescue boat has a good appearance, and the boom pulleys, steel wires, shackles, etc. were found well lubricated.	☐	☒	☐	☐
3	The engine of the rescue boat was well maintained.	☐	☐	☐	☐
5	The operation procedures and maintenance manual of the rescue boat were posted, and lighting fixtures were equipped beside.	☐	☒	☐	☐
6	The life raft and hydrostatic pressure release device were properly fixed, and found in normal maintenance cycle.	☐	☒	☐	☐
7	Lifebuoys, lights, floats, etc. were in the correct position and in good appearance.	☐	☒	☐	☐
8	Lifejackets, insulation suits, diving suits, etc. were approved by the class, properly stored, and in sufficient quantities.	☐	☐	☐	☐
9	All signs for safety equipment and escape routes have been posted in place, reflective signs comply with IMO requirement, and the main/emergency exits were found unobstructed.	☐	☒	☐	☐
10	The configuration of flame parachutes, rope throwers, etc. complies with regulatory requirements and was stored correctly.	☐	☐	☐	☐

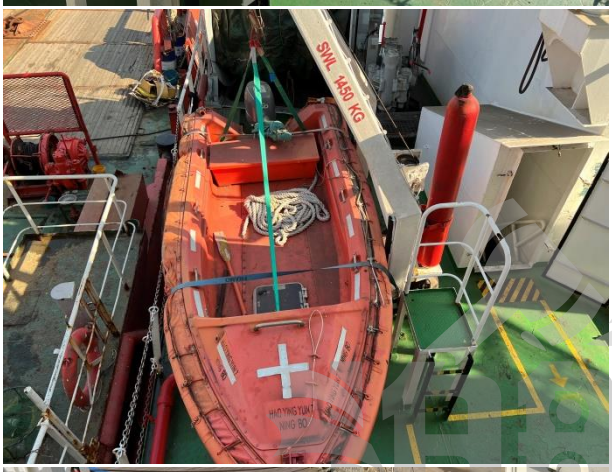
Note: The above inspection items were found in "Fair to good" level overall.

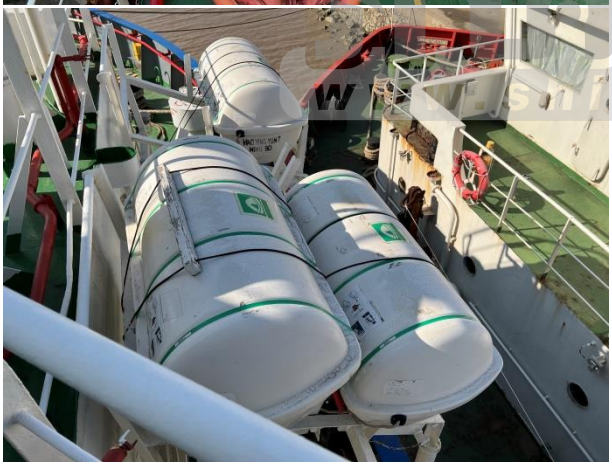
Concerns:

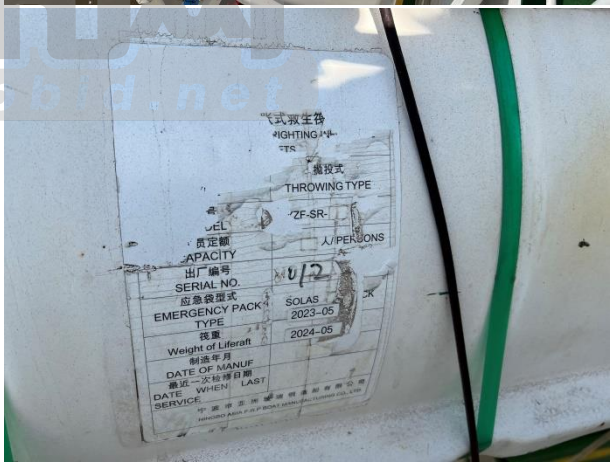
1. The next inspection date for inflatable life rafts is May 2024.

2. The steel wire of the rescue boat needs to be replaced before September 2027.


BATTERY
WARNING


SWL 1450 KG

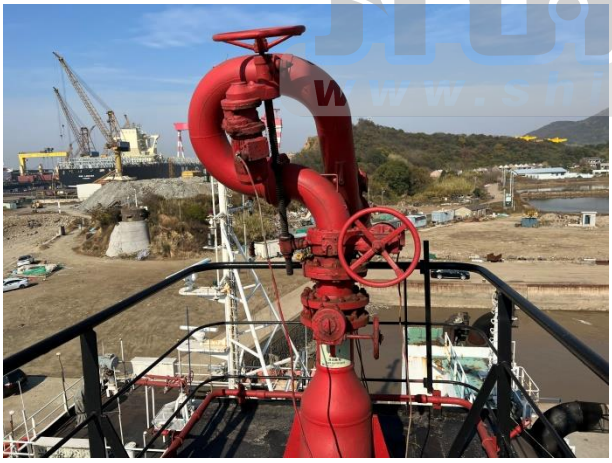


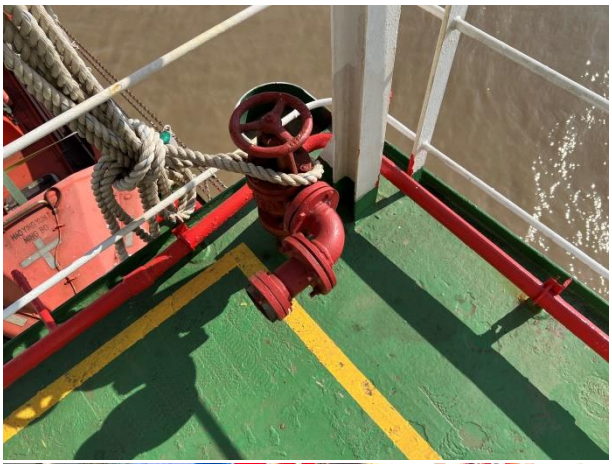
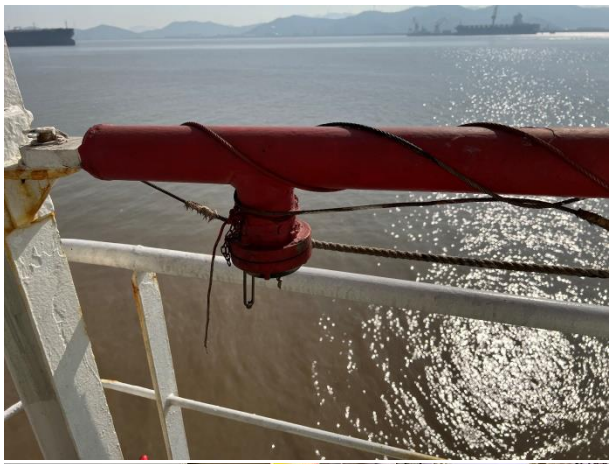

THROWING TYPE
SOLAS
2023-05
2024-05

5. Fire & Safety Appliance

No.	Description	Good	Fair to good	Fair	Poor
1	The appearance of the fire hydrant was intact, the hand wheel switch was normal, and no significant corrosion or leakage in the pipeline.	☐	☒	☐	☐
2	The hose box and buckle were found intact, and the joint and nozzle were in good condition.	☐	☒	☐	☐
3	Portable fire extinguishers were properly placed, in good condition, with valid inspection marks, and equipped according to the requirement of fire control.	☐	☒	☐	☐
4	The appearance of the water mist spraying system was intact, the bottle head valve was free of dirt, and the external cleanliness of the equipment was in good condition.	☐	☐	☐	☐
5	The pipelines, valves, and feed pumps of the water mist spraying system were free of rust and leakage, and the pressure gauge was working normally.	☐	☐	☐	☐
6	The pneumatic quick closing valve box of the fuel tank was found undamaged, with clear markings and no air leakage in the valve pipeline. The testing program has been posted.	☐	☐	☐	☐
7	The appearance of the external fire pump unit and pipeline was intact, and the fire spray device was covered with canvas, and the recent inspection and maintenance completed.	☐	☒	☐	☐

Note: The above inspection items were found in "Fair to good" level overall.



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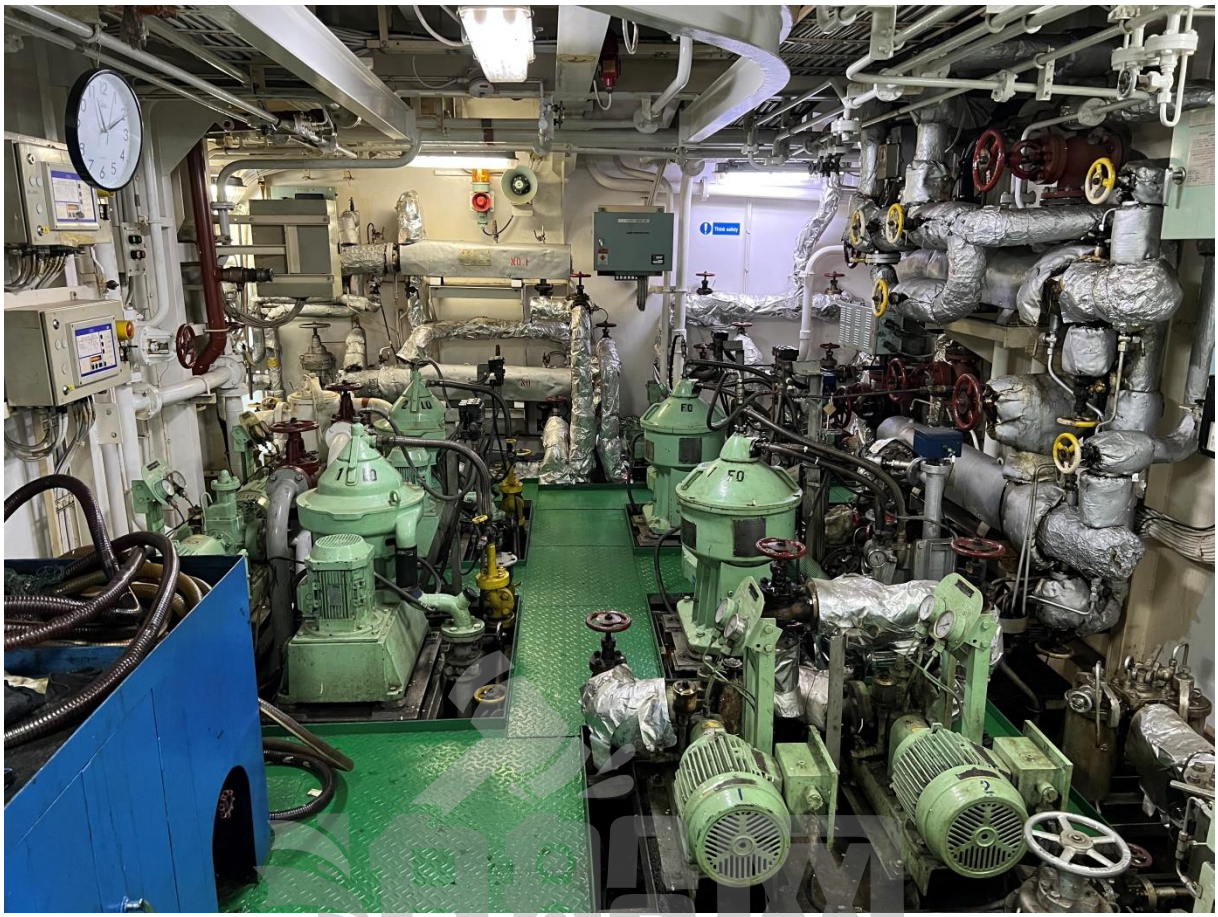
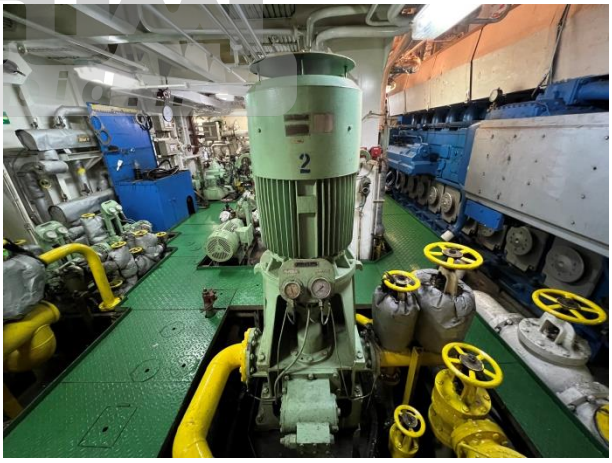
6. Pollution Control

No.	Description	Good	Fair to good	Fair	Poor
1	The nameplate of the ballast water treatment device was found consistent with the inspection certificate, and the ballast water management plan was approved by the flag state or classification society.	☐	☒	☐	☐
2	The surface of the ballast water treatment device equipment was clean, the identification of the ballast pump and valve were clear. The operating instruction was posted near the equipment.	☐	☒	☐	☐
3	The nameplate of the domestic sewage treatment device was found consistent with the certificate. No rust penetration on the body and no faults on the sewage pumps, air compressors, etc.	☐	☒	☐	☐
4	The appearance of the domestic sewage treatment device was found in good condition, the pressure gauge was normal and no illegal bypass pipelines or joints. The discharge valve was locked and warning signs hung.	☐	☒	☐	☐
5	The nameplate of the bilge water separator was found consistent with the certificate, the equipment surface and valve identification was clean. The operating instruction was posted near the equipment.	☐	☒	☐	☐
6	The bilge water separator has no illegal bypass pipelines or joints for direct discharge overboard, and the flange bolts on the outlet pipelines had no significant signs of disassembly. The discharge valves at the port were locked and warning signs hung.	☐	☒	☐	☐

Note: The above inspection items were found in "Fair to good" level overall.




NOxController
NOxController



7. Navigating Bridge & Communications Equipment

No.	Description	Good	Fair to good	Fair	Poor
1	The layout of the bridge was consistent with the drawing, with wipers or rotating windows.	☐	☒	☐	☐
2	The ship is equipped with the latest version of navigation books, and various charts related to safety management were posted and updated to the latest version.	☐	☒	☐	☐
3	The main communication devices were basically imported, which were consistent with the certificate record.	☐	☒	☐	☐
4	The readings of the steering compass and the standard compass were found basically consistent and no large bubbles or steam inside the compass disc.	☐	☒	☐	☐
5	The effective diameter of radar coverage meets regulatory requirement. The radar function keys /knobs were normal and no faults in the radar power supply, display, and operating system.	☐	☒	☐	☐
6	AIS was in a normally open state, the displayed heading matched the actual heading, the static information matched the actual heading, and the MMSI was consistent with the certificate.	☐	☒	☐	☐
7	The electronic chart is recognized by class, and the screen can display normally. The function buttons on the panel were normal, and the electronic chart data had been updated in a timely manner.	☐	☒	☐	☐
8	The identification code displayed by the VHF equipment was consistent with MMSI code, and the DSC transceiver function was normal.	☐	☒	☐	☐
9	MF/HF radio device had no faults and DSC test was normal. The Emergency lighting installed at the operation area.	☐	☒	☐	☐
10	The NAVTEX display was normal and the recently printed data was clear.	☐	☒	☐	☐
11	The water tightness of the SART casing was found intact, and the battery was effective.	☐	☒	☐	☐
12	The EPIRB casing had good water tightness and firmly installed, the battery and hydrostatic	☐	☒	☐	☐

	pressure release device were effective.				
13	The water tightness of the VDR casing was found intact and firmly installed. The battery and beacon were both effective.	☐	☒	☐	☐
14	The radar and electronic chart display devices on the rear console of the bridge were basically in normal status, and the data display was clear and complete.	☐	☒	☐	☐
15	The layout of the rear driving operation panel was convenient for personnel to operate, and the ship control handles were installed on the armrests on both sides of the chair.	☐	☒	☐	☐
16	The DP operating system had been reactivated and was in good working condition.	☐	☐	☐	☐

Note: The above inspection items were found in "Fair to good" level overall.

Concerns:

This ship is equipped with front and rear driving control systems, and the rear driving can be operated by 2 people simultaneously (1 person controls the ship, and 1 person controls the towing winch and deck machinery).

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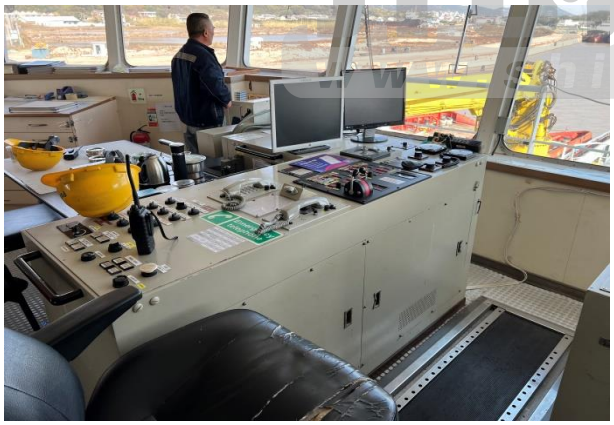


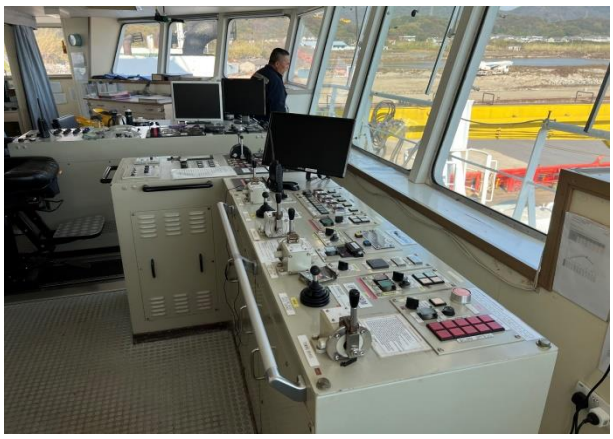

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8. Hull and Deck Machinery

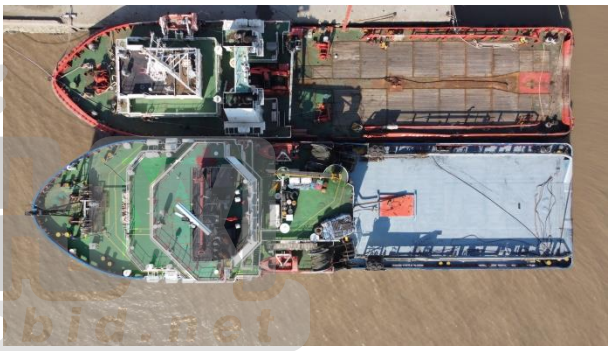
No.	Description	Good	Fair to good	Fair	Poor
1	The ship name, port of registry, and IMO mark were found clear and fully painted.	☐	☒	☐	☐
2	The load line and draft mark were found clear and fully painted.	☐	☒	☐	☐
3	The visible coating on the hull was intact and no significant deformation on structure.	☐	☐	☒	☐
4	The ultrasonic thickness measurement was carried in July 2021, and the structural condition was good without excessive corrosion area.	☐	☒	☐	☐
5	The protective railing was found no deformed or missing, the anti-drop chain was found no missing, and the fixed end was not corroded.	☐	☒	☐	☐
6	The air duct was found in good condition, equipped with an effective closing device, and clearly labeled.	☐	☒	☐	☐
7	The windlass and base were not severely corroded, and no significant leakage in the hydraulic pipeline, and the braking device were basically intact.	☐	☒	☐	☐
8	The anchor chain and fairlead were not severely corroded.	☐	☒	☐	☐
9	The structure of the bollard was intact and no significant broken in the mooring ropes.	☐	☒	☐	☐
10	The rated load parameter identification on the deck crane arm was complete.	☐	☒	☐	☐
11	The deck crane and base were not corroded, and no significantly leaking on the hydraulic motor and pipelines, and the wire line was not significantly corroded.	☐	☒	☐	☐

Note: The above inspection items were found in "Fair to good" level overall.

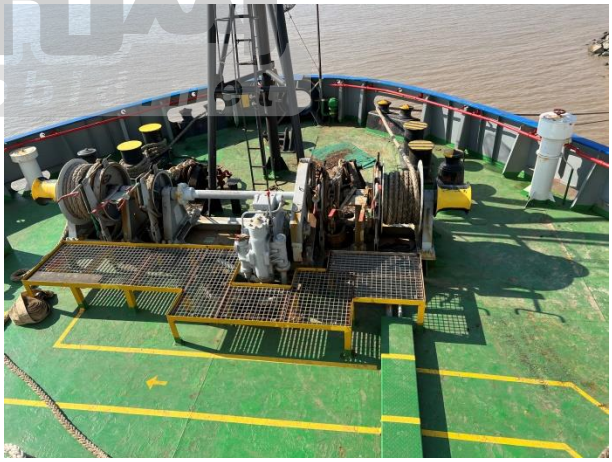
Concerns:

The larger corrosion rate for hull thickness measurement is 14.4% at the starboard side of the midship bottom, while the corrosion rate for other structures is basically 5% or less.

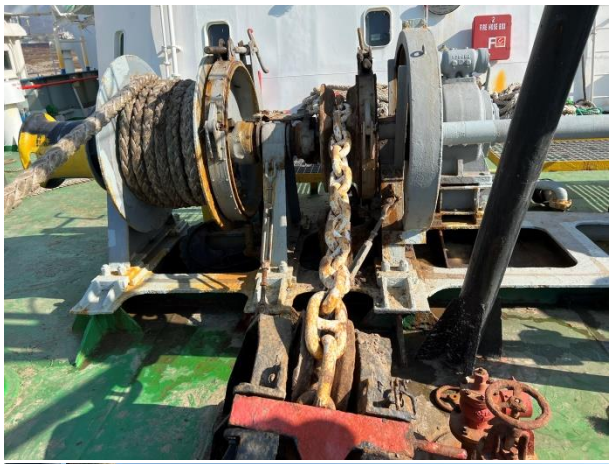

IMO9351828
浩盈运 7
HAO YING YUN 7

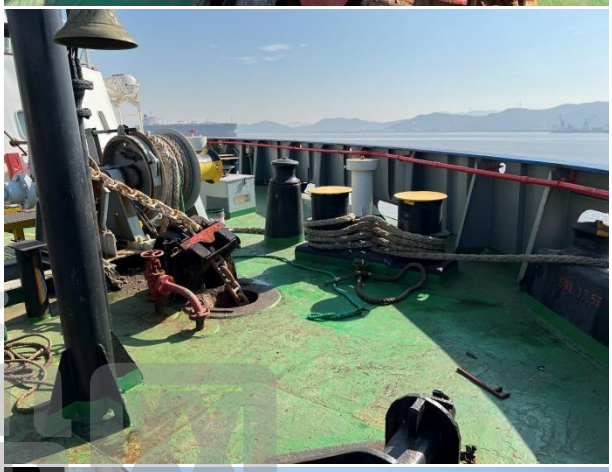


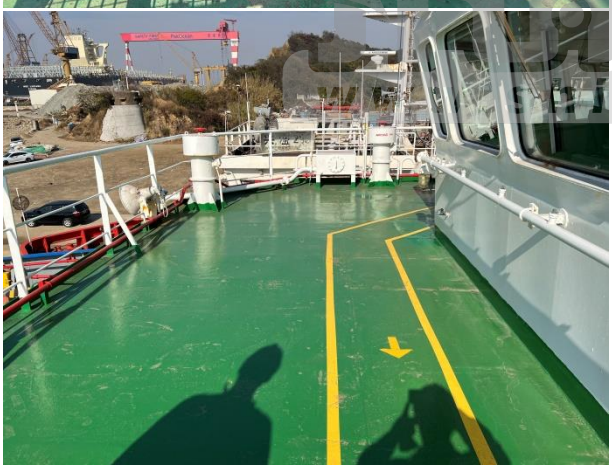

IMO9351828
Universal Shipbuilding
2
FIRE HOSE BOX

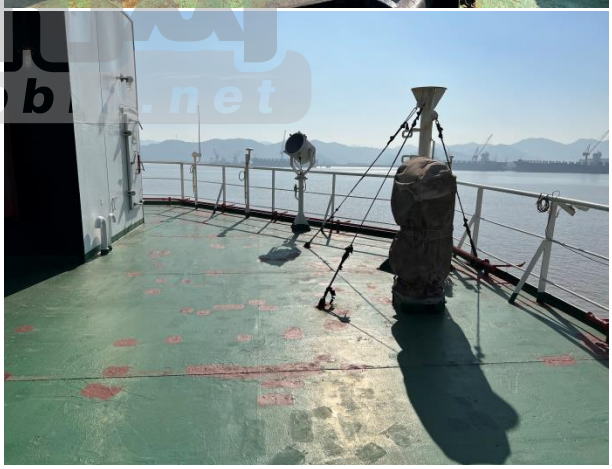



IMO9351828

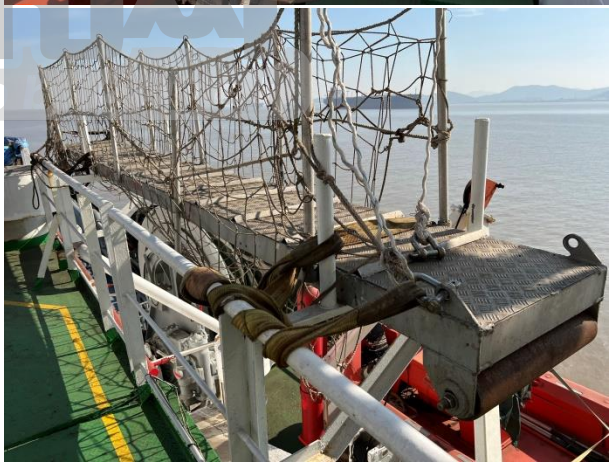






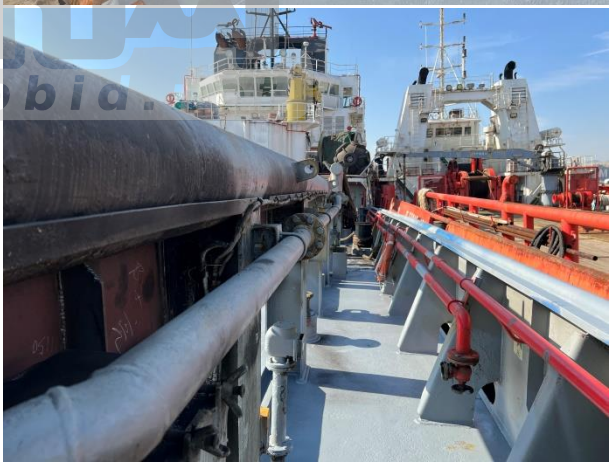



OPEN
CLOSE







9. Towing Equipment

No.	Description	Good	Fair to good	Fair	Poor
1	The towing winch was found in good condition.	☐	☒	☐	☐
2	The towing rope was found in good condition with the records of regular inspection and maintenance.	☐	☒	☐	☐
3	The appearance of the stern drum was found in good condition, without deformation, crack, rust.	☐	☒	☐	☐
4	The towing pin and shark jaw were found in good condition.	☐	☒	☐	☐
5	The hydraulic cylinder of the shark jaw and towing pin was well lubricated, and the hydraulic pipeline was free of rust or leakage.	☐	☒	☐	☐
6	The nameplate of the towing winch motor was clear, the casing was free from rust or damage, and the wiring harness was free from aging and cracking.	☐	☒	☐	☐

Note: The above inspection items were found in "Fair to good" level overall.

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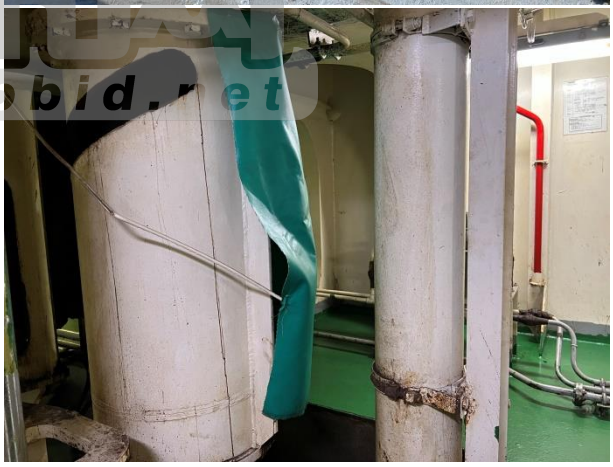
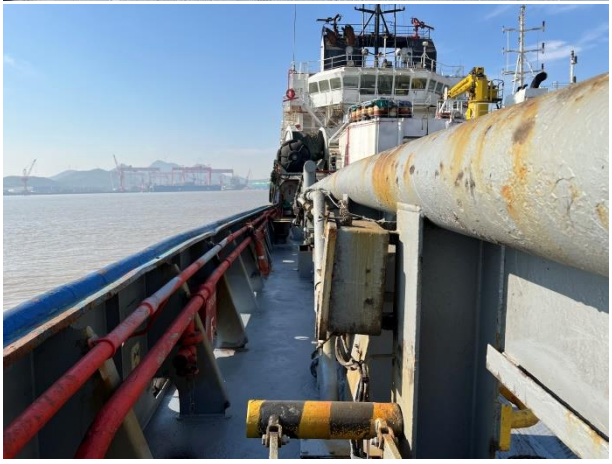


10. Cargo Systems

No.	Description	Good	Fair to good	Fair	Poor
1	No obvious damage was found on the cargo fence, wooden deck, binding points, and binding devices	☐	☒	☐	☐
2	The dangerous cargo area, personnel safety passage, and towing area on the main deck were clearly marked.	☐	☒	☐	☐
3	The cargo system was found in good condition (fuel, fresh water, base oil, drilling water/mud tank, dry bulk tank).	☐	☐	☐	☐
4	All couplings, hoses, reducers, and vent valves were in good condition.	☐	☒	☐	☐

Note: The above inspection items were found in "Fair to good" level overall.






11. Engine Room and Machinery

No.	Description	Good	Fair to good	Fair	Poor
1	The engine room was found clean, and no significant rust, leakage or temporary repair of the bilge pipelines and sea valves.	☐	☒	☐	☐
2	The engine room had sufficient lighting and emergency lighting fixtures were found in good condition.	☐	☒	☐	☐
3	The main mechanical equipment had been effectively maintained according to the manufacturer's specified time.	☐	☒	☐	☐
4	The position and insulation measures of the main switchboard were in place, and the ground fault monitoring light was constantly on.	☐	☒	☐	☐
5	The appearance of all switches, alarm lights, instruments, and monitoring screens on the main switchboard was found normal.	☒	☐	☐	☐
6	The appearance of the main generator was clean, the base was free of significant oil stains, and the pipelines and components were basically free of rust.	☐	☒	☐	☐
7	The M/E monitoring device was found complete and in normally open state, with regular inspection records.	☐	☒	☐	☐
8	The high-pressure fuel pipe of the M/E was a double sleeve and equipped with a leakage alarm device or splash guard. The exhaust pipe was leak free with complete insulation.	☐	☒	☐	☐
9	The casing of the shaft generator was intact, and the wiring harness was free from aging and cracking.	☐	☒	☐	☐
10	The nameplate of the steering gear was found consistent with the certificate, and personnel protection facilities were in place.	☐	☒	☐	☐
11	No leakage was found at the joints, valves, and cylinder disc of the steering gear piping system. The vent valves and pressure gauges at both ends of the oil cylinder were in normal condition.	☐	☒	☐	☐
12	The compass and rudder horn in the steering gear room were consistent with the bridge, and	☐	☒	☐	☐

	the readings were clear. The working schematic diagrams and operating procedures were posted.				
13	The indicator lights and panel displays of the emergency switchboard were found in a normal open state.	☐	☒	☐	☐
14	The casing of the emergency generator set, the wires, and switchboard had the protective grounding wire	☐	☒	☐	☐
15	The emergency generator was started with two sets of batteries with normal voltage.	☐	☒	☐	☐
16	The liquid level in the fuel tank of the emergency generation diesel engine was at a reasonable position, the fuel quick closing valve was directly welded to the oil tank, and the appearance of the pneumatic valve control unit was intact.	☐	☒	☐	☐
17	The casing of the bow/stern thruster and azimuth thruster motors was intact, the wiring harness was free of aging and cracking, and the base and fixing bolts were free of rust.	☐	☒	☐	☐

Note: The above inspection items were found in "Fair to good" level overall.

Concerns:

1. Since the last maintenance, the main engine has been running for about 1500 hours. The N0.1 prime mover has been running for approximately 1200 hours,and the NO.2 prime mover for approximately 1900 hours.
2. The ship has replaced 1 set main generator last year, with the model CCFJ400J-W and rated power of 400kW.

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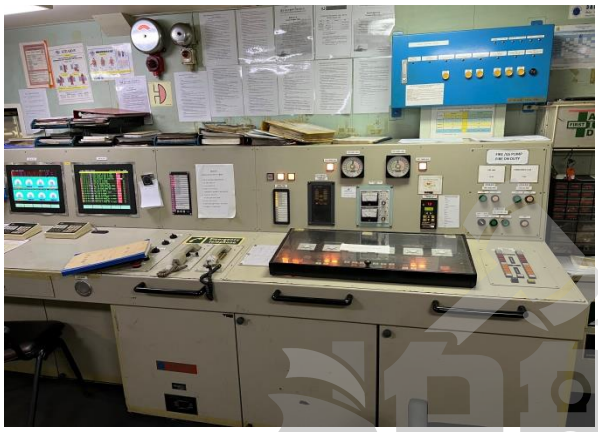
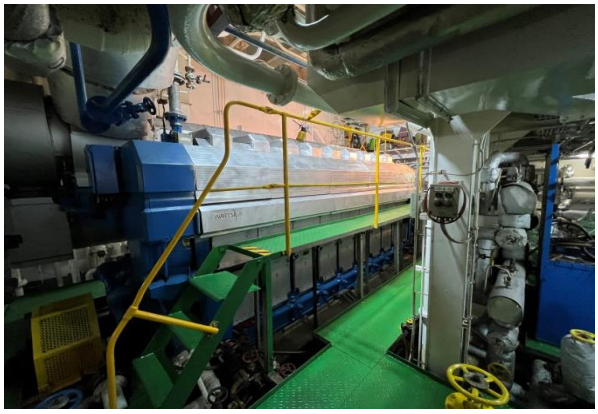


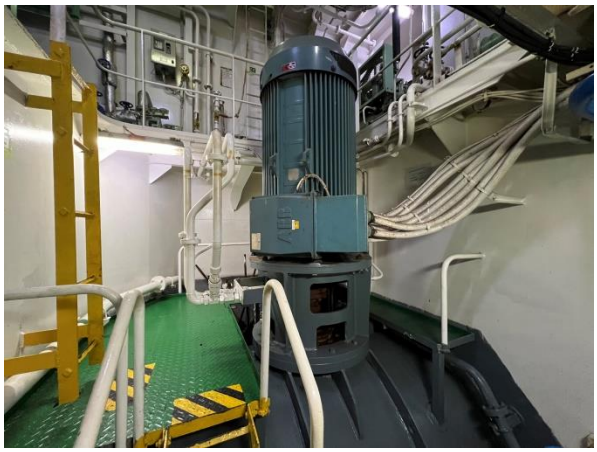




Baudouin








KARMOY

FOAM





NO.1
NO


2

Key concerns	
No.	**Description**
1	This ship was built in Japan and the equipment on board was mostly imported.
2	This ship mainly has been towing the heavy lift carrier in recent few years.
3	The last annual survey has been completed on February 18th, 2023, and the next annual survey/intermediate survey will be carried on January 24th, 2024.
4	Except for the newly replaced prime mover of main generator, which meets the Tier II for NOx emission, all other main engines and prime mover meet the Tier III for NOx emission.
5	The BWTS of model LS-150 has been installed on June 13th, 2022.
6	The fuel used by the main engine and auxiliary engine is MGO now, the HFO can also be used by the main engine. The economic speed is 9 kn with the fuel consumption of 23T/D.
7	The larger corrosion rate for hull thickness measurement is 14.4% at the starboard side of the midship bottom, while the corrosion rate for other structures is basically 5% or less.
8	Since the last maintenance, the main engine has been running for about 1500 hours. The N0.1 prime mover has been running for approximately 1200 hours,and the NO.2 prime mover for approximately 1900 hours.
9	The ship has replaced 1 set main generator last year, with the model CCFJ400J-W and rated power of 400kW.

Technical Report Attachment

Annex 1 : Grade details

Item	Grade
Performance Condition	**30%**
Certificate	4.5
Manning of Ships	4.5
Speed and fuel consumption	4.0
Appearance Condition	**40%**
Galley & Accommodation	4.0
Lifesaving Equipment	4.0
Fire & Safety Appliance	4.0
Pollution Control	4.0
Navigating Bridge & Communication Equipment	4.0
Hull and Deck Machinery	3.5
Towing Equipment	4.0
Cargo Systems	4.0
Engine Room and Machinery	4.0
Mechanical Working Condition	**30%**
M/E	4.0
Main Generator	4.5
Windlass	4.0
Towing winch	4.0
Steering Gear	4.0
Overall	**4.1**

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Annex 2 : Grade Specification		
Grade	**Level**	**Description**
> 4.5	**Good**	Unimpaired condition without significant wear, or deviation from original strength and operating efficiency. No maintenance or repair required.
4.0-4.5	**Fair to good**	Unimpaired condition but may require some minor maintenance to bring to a good standard.
3.0-4.0	**Fair**	Condition where wear and tear or other deficiencies of a minor nature, do not require correction or repair.
< 3.0	**Poor**	Condition in which the adequacy of strength and/or operational efficiency is marginally below acceptable limits, or is in doubt. Remedial action is required.

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