

TECHNICAL REPORT

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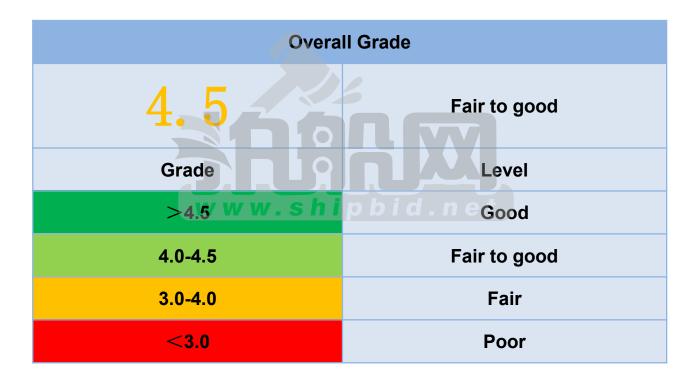
HE TAI TONG 2

Inspection place Zhenjiang, China Inspection date September 26th, 2024



Technical Report

Entrusted by the customer, our company organizes the surveyor to inspect the technical condition of "HE TAI TONG 2" 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:





Principal Particulars	
Ship Name	HE TAI TONG 2
Identification No.	CN20195769089
PoR	Xiamen, China
Type of Ship	Bulk Carrier
Class	CCS
Trading Area	Offshore
LOA	164.60m
LPP	161.50m
MLB	24.60m
MLD	13.10m
GRT/NRT	15936/8924
Summer Draft W W W . S	9.600m ^b i d . n e t
DWCC	25864t
No. of Cargo Hold	4H/4H
Cargo Hold Capacity	31862.54m ³
LDT	5880.2t
Date of Keel Laying	August 2nd, 2019
Date of Delivery	October 26th, 2021
Shipbuilder	Dalian Shipbuilding Industry Changxingdao Shipyard Co., Ltd.
M/E Manufacturer	Guangzhou diesel engine factory Limited



Model of M/E	6UEC33LSII
Rated Power/Rated Speed /No.	3400kW×215r/min×1 set
Minimum Safe Manning	12 persons





Overview

The ship was built as a bulk carrier with single deck, and driven by single engine and single propeller. The ship has 4 cargo holds with double bottom and double hull, and is equipped with hydraulic folding hatch covers.

Class notation:

- ★ CSAD 双舷侧散货船;近海航区;B级冰区航行;水下检验;装载仪(S、I、G);
- ★ CSMD 机器处所集中控制;驾驶室遥控

1. Cargo Hold Capacity

No.	Hatch Dimension (m)	Capacity (m³)
NO.1	20.25×14.70	7413.654
NO.2	24.00×14.70	8280.434
NO.3	24.00×14.70	8281.286
NO.4	24.00×14.70	7887.166
Total		31862.54



2. Engine Machinery

Machinery	NO.	Model	Parameter	Manufacturer
Main Engine	1	6UEC33LSII	3400kW×215r/min	Guangzhou Diesel Engine
Shaft Generator	1	1FC6 450-6SA42-Z	360kw×420V×AC619A	JIALI ELECTRIC
Main Generator	3	SB-HW4-350-6P	350kw×400V×AC631.3A	KUNGFU SCI-TECH
Primer Mover of Main Generator	3	Z8170ZLD	400kW×1000r/min	ZICHAI
Emergency Generator	1	SB-HW4.D-120	120kw×400V×AC216.5A	KUNGFU SCI-TECH
Primer Mover of Emergency Generator	1	SC7H230CD	150kW×1500r/min	SDEC POWER
Windlass	2	MOW-F60	Dia.60mm,AM3	MASADA
Steering Gear	1 M	w vDFT-60 h i p	b i d 591kN.m t	MASADA
Hatch Cover	16	hydraulic folding		TTS Huahai
Oil Fired Boiler	1	LYF0.8/140-0.7/11	155 m²×900kg/h×0.7MPa	WAYLIT
Main Switchboard	1	PZB3-631A/96	AC400V, 350KW×4	DALIAN SHUN ZE
Freshwater cooler	3	ES15BW-06/100-107	65.1 m², 100 ℃	THT
Sewage treatment plant	1	CSWE-20	21.963m³	CSSC LUZHOU
Bilge Oil-Water Separator	1	CYFE-3	-	SHIJIU



3. Communication and navigation equipment

Equipment	NO.	Model	Manufacturer
MF/HF	1	JSS-2150	JRC
VHF	2	JHS-800S NVR-3000	JRC New Sunrise Co., Ltd.
EPIRB	1	NEB-1000	New Sunrise Co., Ltd.
SART	2	NRT-1000	New Sunrise Co., Ltd.
AIS	1	NSI-1000	New Sunrise Co., Ltd.
NAVTEX	1	NXV-1000	SAMSUNG
Two Way-VHF	3	NTW-1000	New Sunrise Co., Ltd.
Radar No.1	1	JMR-9210-6X	JRC
Radar No.2	1	JMA-9225-6X	JRC
Gyro Compass	DIR	TG-8000	TOKIMEC
Magnetic Compass	<u>v w w . s</u>	shipbid.ne CGF-165	tTengfei
Echo Sounder	1	DS2008	NINGLU
GPS	1	JLR-7900	JRC
ECDIS	1	HM-5817	XINUO



Technical status

1.Certificate and Inspection

Certificates Description	Authority	Issue Date	Expiry Date
Certificate of Registry	MSA	2021.11.11	2026.11.10
Minimum Safety Manning	MSA	2021.11.12	2026.11.10
Classification Certificate	CCS	2021.10.26	2026.12.25
Safety and Environmental Protection Certificate	CCS	2022.04.13	2026.10.25
Safety Management Certificate	MSA	2022.05.07	2027.05.06

Concern:

1. The ship has completed the annual survey on October 23rd, 2023, and the

intermediate survey will be carried out within three months around October 25th, 2024.

2. This ship underwent a temporary survey for damage caused by collision on July 21st,

2022.





2. FSC Inspection

Date	Place	Defect Code	Action Code	Note
2023.10.10	Shanghai	1575, 1560, 0730, 0799	17/10	Corrected
2024.03.26	Beilun	1220, 2099, 1282	16,17/10	Corrected

Concern:

The defects found in the last FSCO inspection have been corrected and closed, only one of them needs to closed after re-inspection without any detained items.





3. Last 10 Ports and Cargo

Date	Port	Cargo	Weight (t)
2024.9.19	Jingtang-Zhenjiang	coal	25046
2024.9.11	Lianyungang-Bayuquan	coal	25024
2024.9.4	Beilun-Jingjiang	ore	25000
2024.8.15	Huludao-Zhoushan	sand	25800
2024.8.2	Ganyu-Bayuquan	coal	25000
2024.7.26	Caofeidian-Jingjiang	coal	25583
2024.7.17	Beilun-Jingjiang	ore	25133
2024.7.9	Beilun-Jiangyin	ore	25000
2024.7.4	Bayuquan-Shanghai	steel	25694
2024.6.25	Lianyungang-Bayuquan	coal	25437





4. Speed and Fuel Consumption

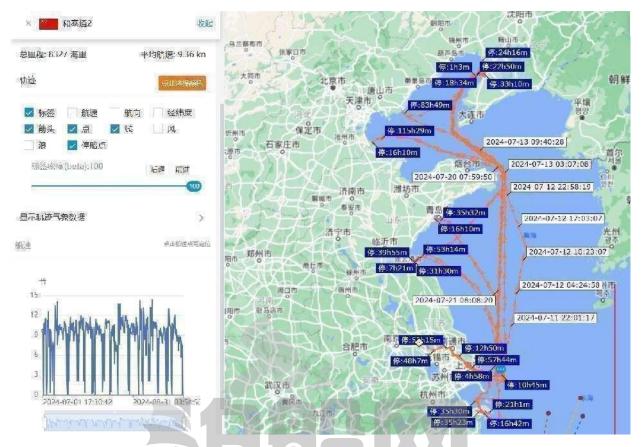
The fuel oil consumed by the main engine is 180CST.

Condition	Economic Speed kn	Rotary Speed rpm	Fuel Consumption (t/d)	Design Speed kn
Ballast	~10.5	177	7.6	
Laden	~10.0	177	7.9	11.9

The fuel oil consumed by the auxiliary engine is MGO.

Condition	Working set	Fuel Consumption (t/d)
Sailing	Shaft generator	-
Berthing and Departure	2	1.3
	w w w . s h i p b i d	. n e t





Under fully loaded and the rotation speed of M/E is 177rpm, the speed is close to 10 kn, the 180CST consumption is 7.9 tons/day. 2 sets auxiliary engines need to be operated during berthing and departure, with MGO consumption of 1.3t/day.



5. GALLEY & ACCOMMODATION

No.	Description	Good	Fair to good	Fair	Poor
1	No significant damage was found on the stairway, and without deformation or missing on the railing.		\boxtimes		
2	The light facilities in the crew room.		\mathbf{X}		
3	The fireproof materials in the living area hallway were found undamaged, and the fire doors can work normally.		X		
4	The bathroom facilities in the crew room.		X		
5	Cleanliness of mess room and galley.		X		
6	No significant oil stain was found on the galley range hood and ventilation ducts, and classify garbage and store it in designated areas. The Portable fire extinguishers were inspected on schedule.		X		
7	The lighting in the freezer room was found intact, without damp or cracked on the enclosure and ceiling.		X		
8	The appearance of the freezer was found intact, without dirt or stains. There was no sign of water leakage or rust on the floor. The power supply is powered on and the refrigeration is normal.	ne t	X		
9	The freezer can be used normally. The food was found neatly arranged and clean.		\boxtimes		

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















6. Lifesaving Equipment

No.	Description	Good	Fair to good	Fair	Poor
1	The lifeboat has a good appearance, and the ship name, port of registry, and other markings were clear and stored correctly.		\boxtimes		
2	The frame structure has a good appearance and well lubricated		X		
3	The motor of the lifeboat was well maintained, and was easy to start (check records of tests or manoeuvre).		X		
4	The lifeboat was fully equipped with life-saving appliances, food and fresh water.		\mathbf{X}		
5	The operation procedures and maintenance manual of the lifeboat were posted, and lighting fixtures were equipped beside.		X		
6	The life raft and hydrostatic pressure release device were properly fixed, and found in normal maintenance cycle.		\boxtimes		
7	No cracks or damages were found on the wooden steps and no significant rust on the binding facilities at the entrance of the pilot ladder, and there was no missing on anti fall chains.	n e t	X		
8	Lifebuoys, lights, floats, etc. were in the correct position and in good appearance.		X		
9	Lifejackets, insulation suits, diving suits, etc. were approved by the class, properly stored, and in sufficient quantities.				
10	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.		X		
11	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.











7. Fire & Safety Appliance

No.	Description	Good	Fair to good	Fair	Poor
1	The CO2 cylinders and release devices were found within the validity period of inspection, the automatic sound alarm was not faulty, and the operation regulations were posted.		X		
2	No looseness or leakage was found on the connection of CO2 pipe system, and the starting cylinder pressure was sufficient.		X		
3	The appearance of the fire isolation valve was found intact, and the appearance of the main fire pump and pipeline was intact.		X		
4	Hydrant appearance was found intact, the hand-wheel switch was normal. No significant corrosion and leakage was found on pipelines.		X		
5	The appearance of the hose box was found intact, and the water hose and water gun were approved type, with nozzles in good condition.		X		
6	Portable fire extinguishers were correctly placed and in good condition, with inspection markings. The sufficient number of spare fire extinguishers were provided.		X		
7	The fire protection of the emergency escape passage was found complete. The lighting, life rope, and life ladder were in good condition with normal self closing door.	n e t	X		
8	The fire protection structure of the paint room was intact, as well the temperature sensing probe. The water mist pipeline was free of rust, and the ventilation facilities were intact.		X		
9	Emergency fire pumps operating procedures were regularly tested and operated.		X		

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











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8. Pollution Control

No.	Description	Good	Fair to good	Fair	Poor
1	The nameplate of the domestic sewage treatment plant was found consistent with the certificate. The sewage pump, air compressor, etc.were not faulty.		X		
2	The appearance of the domestic sewage treatment device was found in good condition, and the pressure gauge was normal. No illegal bypass pipelines or joints, the discharge valve was locked and warning signs were hung.		X		
3	The nameplate of the bilge oil-water separator was found consistent with the certificate, the surface of the equipment was clean. The operating instructions were posted near the equipment.		\boxtimes		
4	The bilge oil-water separator has no illegal by-pass pipeline or connector discharging directly to the outboard side, and without significant dismantling trace of the flange bolts on the outlet pipeline. The outboard discharge valve was in a closed and locked status, with a warning sign for prohibiting discharging.		X		

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

























9. Navigating Bridge & Communications Equipment

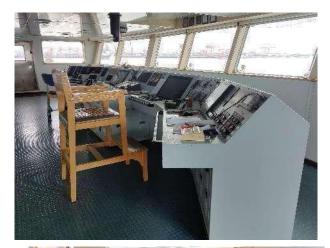
No.	Description	Good	Fair to good	Fair	Poor
1	The layout of the bridge was consistent with the		\mathbf{X}		
	drawing, with wipers or rotating windows.				
	The ship was equipped with the latest version of				
2	navigation books. The various charts related to		X		
2	safety management were posted and updated to				
	the latest version.				
3	The main communication devices were		X		
5	consistent with the certificate record.				
	The readings of the steering compass and the				
4	standard compass were found basically		X		
4	consistent and no large bubbles or steam inside				
	the compass disc.				
	The effective diameter of radar coverage meets				
5	regulatory requirement. The radar function keys		X		
5	/knobs were normal and no faults in the radar	n e t			
	power supply, display, and operating system.				
	AIS was in a normally open state, the displayed				
6	heading matched the actual heading, the static		\boxtimes		
0	information matched the actual heading, and the				
	MMSI was consistent with the certificate.				
	The electronic chart was recognized by class,				
7	and the screen can display normally. The				
	function buttons on the panel were normal, and		\mathbf{X}		
	the electronic chart data had been updated in a				
	timely manner.				
8	The identification code displayed by the VHF		X		
	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.	X	
10	The NAVTEX display was normal and the recently printed data was clear.	\boxtimes	
11	The image display of the echo sounder was found clear, with normally brightness adjustment.	X	
12	The water tightness of the SART casing was found intact, and the battery was effective.	X	
13	The EPIRB casing had good water tightness and firmly installed, the battery and hydrostatic pressure release device were effective.	X	

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





























10. Hull and Deck

No.	Description	Good	Fair to good	Fair	Poor
1	The marks of ship name, load line, port of		\mathbf{X}		
•	registry were found clear and fully painted.				
2	The condition of shell plate, bilge keel, bow and			X	
Z	stern structures.				
	No deformation or cracking was found in the				
	transition zone of the bulwark, and no				
3	deformation or missing on the side of the ship,		X		
	as well as rust or detachment at the root of the				
	support column.				
	The propeller blades were not found deformed				
	or corroded, the sealing device between the hub				
4	and the tail shaft sleeve was intact, and the				
	screw thread of the fastening nut was not				
	damaged.				
	The condition of main deck was found intact and	net			
	smooth, without pitting corrosion. The weld				
5	seam was free of rust and cracks, without		X		
	significant cracks on the deck near the opening				
	and bollard.				
	The main deck is equipped with a crew safety				
	passage. The anti slip and paint markings on the				
6	safety passage are well laid, the passage is		X		
	unobstructed, the safety ropes are in a tight				
	state.				
7	The accommodation ladder paint was found				
	intact, as well lifting mechanism. The boarding		X		
	platform was found free of rust.				



8	The air duct was found in good condition and equipped with an effective shut-off device.		\boxtimes	
9	The air ducts on the upper deck were found in good condition, equipped with effective closing devices and clearly label.		X	
10	The lighting fixtures, cable pipelines, and fire protection pipelines in the cargo hold area were found in good condition.		X	
11	The windlass and base were found no severely corroded, and without significantly leaking on the hydraulic pipelines, and the braking device was basically intact. The anchor chain and fair lead were not severely corroded or the base cracked.		X	
12	The stern winch and base were found no severely corroded, and the motor wiring harness was intact. The bollard and ropes at the stern of the ship were found in satisfactory condition.	n e t	X	

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

Concern:

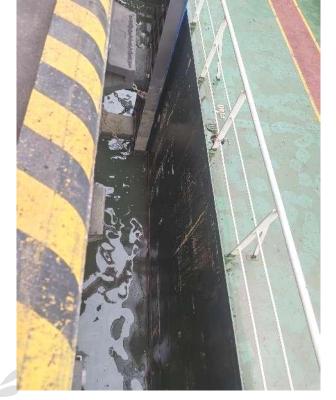
There were multiple rust spots on the weld seam of the bow shell plate, and there were obvious scratches on the paint.



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11. Ballast tank and void space

No.	Description	Good	Fair to good	Fair	Poor
1	Corrosion and thinning condition in the ballast tanks and void space.		X		
2	The anti-corrosion condition in the ballast tanks and void space.		X		
3	No buckling/fracture/crack/temporary repair/poor alignment in the ballast tanks and void space.			X	
4	The manhole cover of the ballast tank was found no deformed or corroded, the sealing gasket was not damaged.		X		
5	The pipeline passing through the watertight bulkhead with collar plate and was effectively welded without cracks or leaks.		X		
6	The ballast tank valve can be effectively closed externally with an audible and visual alarm system in the control room.	. ŋ e	t ×		

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

Concern:

1.Due to the presence of ballast water in the ballast tank and the lack of ventilation in the void space, the surveyor is unable to enter for inspection.

2.No rotation direction mark was found on the derailleur wheel of chain gear in the chain locker.

3. The deformation bulge was found on the platform of fore void space, and there was

a 1m * 30cm repair welding plate near the platform on the shell plate of the bow column in the void space.







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12. Cargo Hold

No.	Description	Good	Fair to good	Fair	Poor
1	No cracking or severe rust was found on the bracket and reinforcement plate near the hatch coaming.		X		
2	The drainage groove of the hatch panel has no excessive rust, and the waterproof pressure strip has no deformation, cracking, or rust penetration.		X		
3	The inside wall of the hatch coaming was painted intact, and the corner structure of the hatch was intact.		X		
4	The paint on the watertight bulkheads inside the cargo hold was found intact, and without obvious impact deformation observed.				
5	The manhole cover, ladder, platform, and railing in the cargo hold were found in good condition.				
6	The rubber pad of the hatch cover was in good condition, and the drainage channel has no significant rust or blockage.		X		
7	The hatch cover panel, side plate, and reinforced structure were found to be free significant corrosion.	net	X		
8	The clip of the hatch cover was not found missing or rusted.		\mathbf{X}		
9	The cargo hold ventilation duct was free of rust, the ventilation was closed properly, and the fire screen was not damaged.		X		
10	The hydraulic system of the cargo cover was found normal, without significant leakage in the pipelines.		\boxtimes		

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

Concern:

During the inspection, all of 4 cargo holds were in a state of waiting to be unloaded,

and the condition of the watertight bulkheads and inner bottom plates was unknown.



















13. Engine Room and Machinery

No.	Description	Good	Fair to good	Fair	Poor
1	The engine room was found clean and sufficient lighting, without significant rust, leakage or temporary repairs to the bilge pipelines and underwater valves.		X		
2	The insulation protection of the main switchboard was found in place, and the grounding fault monitoring device was operating normally.		X		
3	The appearance of all switches, alarm lights, electrical instruments, and monitoring screens on the main switchboard were found normal.		X		
4	The surface of the fuel/lubricating oil separator and fuel supply unit was found to be free of a large amount of oil stains and in good condition.		\boxtimes		
5	The appearance of the main generator was found clean, without significant oil stains on the chassis. The pipelines and components were basically free of rust.		X		
6	The monitoring devices of the main and auxiliary machines were complete and in a normally open state, and undergo regular inspections.	n e t	×		
7	The high-pressure fuel pipes of the main and auxiliary engines were double sleeves, equipped with leakage alarm devices or splash guards.		X		
8	The nameplate of the boiler was consistent with the certificate, and the safety valve was in good condition, without significant rust or leakage.		X		
9	The boiler water level gauge can display clearly, the valve components were found active, without blockage or dripping.		X		
10	The boiler safety valve was found intact, without leakage in the steam pipeline and valve, and the outer surface insulation was wrapped intact.		X		
11	No leakage was found in the fuel supply pipeline of the boiler, and with a drip tray below the combustion device.		X		
12	The nameplate of the steering gear was found consistent with the certificate and and personnel		\mathbf{X}		



	protection measures were in place.			
13	No leakage was found at the joints, valves, and oil cylinders of the steering gear piping system. The relief valves and pressure gauges at both ends of the oil cylinder were found in normal condition.		X	
14	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.		X	
15	The indicator light and panel display on the emergency switchboard were in a normal state.		\boxtimes	
16	The emergency generator, wires, and the distribution board casing has a grounding wire.		\boxtimes	
17	The voltage of the emergency generator set starting battery was found normal, and with replacement or inspection record.		\boxtimes	
18	The liquid level in the fuel tank of the emergency generation diesel engine was at a reasonable position.		X	
19	The E/R was equipped with spare parts for the main and auxiliary engines, and the repair room was equipped with maintenance tools and replacement parts.	net	X	

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

Concern:

1.As of September 26th, 2024, the main engine has been running continuously for 10072 hours, and the high-pressure oil pump has been running for 2722 hours after the annual maintenance in October last year.

2.As of September 26th, 2024, the auxiliary generators have been running continuously for 6671h, 7724h, and 6762h respectively.

3.During the inspection, the NO.1 main generator was found in operation, and according to the parameters monitored in the ECR and the control equipment nearby, it was in good working condition.









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Key concerns

No.	Description
1	The ship was built as a bulk carrier with 25864t, and built by Dalian
	Shipbuilding Industry Changxingdao Shipyard in 2021 under CCS survey.
2	The LDT is 5880.2t, with Minimum Safe Manning of 12 persons.
3	The ship has 4 cargo holds with double bottom and double hull, and is
	equipped with hydraulic folding hatch covers, TTS Huahai brand.
4	The model of shaft generator is 1 set 1FC6 450-6SA42-Z with 360KW.
5	The ship has mainly loaded coal and ore for the last 10 voyages.
	Under fully loaded and the rotation speed of M/E is 177rpm, the speed is
0	close to 10 kn, the 180CST consumption is 7.9 tons/day. 2 sets auxiliary
6	engines need to be operated during berthing and departure, with MGO
	consumption of 1.3t/day.
	The ship has completed the annual survey on October 23rd, 2023, and the
7	intermediate survey will be carried out within three months around October
1	25th, 2024. This ship underwent a temporary survey for damage caused by
	collision on July 21st, 2022.
	The deformation bulge was found on the platform of fore void space, and
8	there was a 1m * 30cm repair welding plate near the platform on the shell
	plate of the bow column in the void space.
	The lifesaving and firefighting appliance, mechanical equipment, and deck
9	machinery on this ship were found in good condition, and the mechanical
	equipment can be checked before departure.
	The defects found in the last FSCO inspection have been corrected and
10	closed, only one of them needs to closed after re-inspection without any
	detained items.



Technical Report Attachment				
Annex 1 : Grade details				
Item	Grade			
Basic attributes	15%			
Shipbuilder	4.5			
Classification society	4.5			
Document on board	4.2			
Performance Condition	25%			
Speed	4.5			
Fuel Consumption	4.5			
FSC.SMS	4.2			
Appearance Condition	30%			
Galley & Accommodation	4.7			
Lifesaving and Fire & Safety Appliance	4.7			
Hull Structure	4.0			
Cargo Hold	4.7			
Deck MachineryV . S h i p	bid.net _{4.7}			
Mechanical Working Condition	30%			
Anti Pollution System	4.7			
Navigating Bridge & Communications Equipment	4.7			
Engine Room and Machinery	4.7			
Pump/Valve/Piping system	4.7			
Overall	4.5			



Annex 2 : Grade Specification

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

