

Rpt. 4b/4f REPORT ON INSTALLATION OF INTERNAL COMBUSTION MACHINERY (Inst) (Sheet 1)

FOR CONSIDERATION BY THE COMMITTEE OF LLOYD'S REGISTER OF SHIPPING

NOTE.—The particulars in this report are to be given as fully and as clearly as possible. Where the answer is "NO" or "NONE", say so. Ticks and other signs of doubtful meaning are not to be used. Wording not applicable to be cancelled.

Ship's Name m.s. "GUANG MING" Port Rotterdam

Processing Number: LR Date of completing rpt. 29-4-'65 Rpt. No. 60636

Gross tons Place of survey, if different from above Flushing

No. of visits: In shops 7 First date 23-11-'64 Last date 26-3-'65

On ship 24 First date 24-3-'65 Last date 23-4-'65 (7.5-'65 (elec))

Owners China Ocean Shipping Co. Port of registry Canton

Ship built by Messrs. Koninklijke Maatschappij Yard No. 327 When '65 4

Main engines made by "De Schelde" Messrs. Koninklijke Maatschappij Engine No. 927 When '65 4

Gearing made by - Gear No. - When

Aux. ~~motors~~ boilers made by Messrs. Cochran & Co. Annan Ltd. Boiler No. 23464 When 1964

Machinery installed by Messrs. Koninklijke Maatschappij De Schelde, Flushing. When 1965-4

Particulars of service of ship if limited for classification None

Particulars of vegetable oil or other special cargo notation, if required None

If ship is to be classed for navigation in ice, state whether class 1, 2 or 3 no

Is ship an oil tanker? no Is refrigerating machinery fitted? yes

If so, is it for cargo purposes? no Type of refrigerant Freon

Is the refrigerating machinery space isolated from the propelling machinery space? yes

Is the refrigerated cargo installation to be classed? no

No. of main engines one Brief description of propulsion system direct drive reversible engine

No. of propellers one

Fee $FLS. 2545,-$ Expenses 305.-

MAIN INTERNAL COMBUSTION RECIPROCATING ENGINE

To be reported on Rpt. 4b (Cons) Port Rotterdam Rpt. ~~no~~ attached

MAIN GAS TURBINES

To be reported on Rpt. 4f (Cons) - Port - Rpt. No. -

ELECTRIC PROPULSION. (Internal combustion reciprocating engines or gas turbines)

Electrical particulars to be reported on Rpt. 4d - Port - Rpt. No. -

REDUCTION GEARING. (Internal combustion reciprocating engines or gas turbines)

To be reported on Rpt. 4e - Port - Rpt. No. -

*Are flame guards or traps fitted to crankcase relief devices? yes

*Is a torsional vibration damper or detuner fitted to the shafting? no

*Where positioned? -

	MAIN	AUX.
No. of lub. oil coolers	1	3

Is engine fitted directly on tank top, or on a built-up seating? direct on tank-top

*Can engine/turbine be reversed? yes

*If not, how reversed? ~~XXXXXX~~

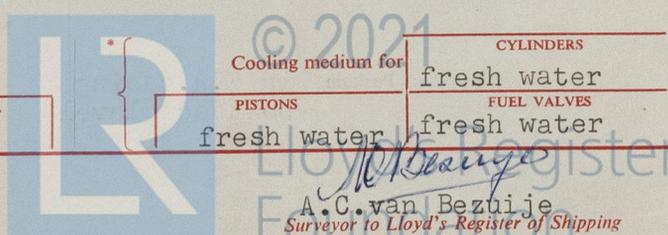
~~XXX~~

Is the engine equipped to operate on heavy fuel? yes

	MAIN	AUX.
No. of fresh water coolers	3	1

Cooling medium for CYLINDERS fresh water

PISTONS fresh water FUEL VALVES fresh water



CLUTCHES, FLEXIBLE COUPLINGS, &c. If a clutch or other flexible connection is fitted between engine/turbine and gearing, or between engine and line shafting, give Makers' name, brief description and, for clutches, state how operated.

None

If main engine can be used for purposes other than propulsion when declutched, state what purpose also at what maximum B.H.P. & R.P.M.

AIR COMPRESSORS AND RECEIVERS

State No. of independently driven air compressors, also capacity of each and whether a separator or filter is provided between each compressor and the air receivers, type of prime mover, position in ship, Port and No. of cert.

2-cap. 220 m³/h. with separator -elec. driven fitted ps. floorlevel inboard - outboard. Certificate Ipswich 24250-24251.

1-cap. 10.9 cu.ft. per min. with separator -diesel driven fitted starboard floorlevel. Certificate London 7619.

State No. of starting air receivers, both main and auxiliary, capacity of each, position in ship, Port and No. of cert.

2-cap. 7800 ltrs. each, fitted platform deck ps. Certificates Milan Nos. M.2981-2982

One aux. cap. 200 ltrs. fitted starboard. Certificate Köln C 62/576.

How are air receivers first charged? Diesel engine aux. compr. hand started.

Maximum working pressure of starting air system 30 kg./cm²

Are the safety devices in accordance with the Rules?
Are bursting discs or flame arresters fitted at the starting air valves on each cylinder?

yes
flame arrestors fitted

Has the starting of the main engines been tested and found satisfactory?

yes

STEAM INSTALLATION

No. of aux./donkey boilers (see Key to R.B.) burning oil fuel

one aux. B.

Can the exhaust heated boilers deliver steam directly to the steam range or do they operate only as economisers in conjunction with oil-fired boilers?

only as economiser

Working pressure 100 lbs/sq. in.

Type Vertical

Port and rpt. or cert. Nos. for aux./donkey boilers

Glasgow Rpt. FE.285

Position in E.R. platform deck ps. forward

Rotterdam cert. E. & H. attached

Is a superheater fitted? no

Is steam essential for the operation of the ship at sea?

yes

Are these boilers also heated by exhaust gas? no

If so, are any steam pipes over 3 ins. bore?

yes

No. of aux./donkey boilers (see Key to R.B.) heated by exhaust gas only

one E.G.E.

What is their material?

steel

Working pressure 9 kg/cm²

For oil-fired boilers, is the arrangement of pipes, valves, controls, &c., in accordance with Rules?

yes

Type Schelde-La Mont

No. of oil-burning pressure units

one

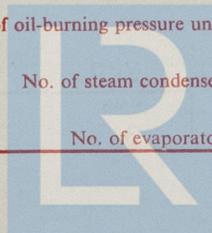
Position in E.R. casing boatdeck level

No. of steam condensers

one

No. of evaporators

none



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Ship's Name "GUANG MING"

Port Rotterdam

Rpt. No. 60636

Date of approval of torsional vibration characteristics of the propelling machinery system with:—

Particulars of barred speed range(s) if imposed, with:—

(a) Working propeller 20-6-'62 and 27-5-'64
(b) Spare propeller 20/4/64

(a) Working propeller none
(b) Spare propeller none

STRAIGHT SHAFTING

Max. BHP/SHP approved for each line of shafting 6600
THRUST SHAFT. Separate or integral with crank, wheel or electric motor shaft? separate

Corresponding RPM of propeller 135 MN 1320

Diameter adjacent to collar 500 mm.
Material forged steel
Minimum approved tensile strength 50 kg./mm²

Thickness of liner between bearings 22½ mm.
How is the after end of the liner made watertight in the propeller boss? rubber ring and gland

Material of screw/tube shaft forged steel
Minimum approved tensile strength 44 kg./mm²

INTERMEDIATE SHAFT
Diameter 360 mm.
Material forged steel
Minimum approved tensile strength 44 kg./mm²

~~XXXXXXXXXXXX~~
~~XXXXXXXX~~
If an approved type, state name -

Length of bearing next to and supporting propeller 1650 mm.

SCREWSHAFT. Dia. of cone at large end 421 mm.
Is screwshaft fitted with a continuous liner? yes

Material of bearing lignum vitae

TUBE SHAFT (if separate)
Diameter -
Is tube shaft fitted with a continuous liner in way of stern tube? -

Material of stern tube cast iron

Thickness of screw/tube shaft liner at bearings 27 mm.

Is stern tube fabricated in multiple screw ships, is the liner between stern tube & "A" bracket continuous? If not, is the exposed length of shafting between liners readily visible in drydock? no

PROPELLER

If of special design, state type -
Is it of reversible pitch type? no
If so, is it of approved design? -

State method of control -

PROPELLER	BLADE MATERIAL	TENSILE STRENGTH kg/mm ²	BUILT OR SOLID	LEFT HAND (LH) OR RIGHT HAND (RH)	NO. OF BLADES	DIAMETER mm.	PITCH mm.	TOTAL DEVELOPED SURFACE
Working	bronze	51	solid	R.H.	4	4700	at 0.7R 4012	6,484
Spare	cast iron	-	solid	R.H.	4	4700	3932	0,62

FOR ICE STRENGTHENING ONLY

PROPELLER	DESIGN MOMENT OF INERTIA OF PROPELLER (DRY) kgm ²	CLASS 1, 2 OR 3	THICKNESS OF BLADES			LENGTH OF BLADE SECTION AT 25% RADIUS	RAKE OF BLADES
			AT TOP OF ROOT FILLET	AT 25% RADIUS	AT TIP		
Working	35000						
Spare	51000						

OIL FUEL TANKS

No. and position of oil fuel settling or service tanks not forming part of ship structure } One diesel oil daily service tank fitted in E.R. casing bridge deck level.
One for emergency generator fitted boatdeck ps.

LUBRICATION

elec. driven:
No. of lub. oil pumps and how driven 2 M.E. lub. oil pumps fitted ps.
Can normal supply be maintained with any one pump out of action? aft F&A yes
Is an emergency supply automatically available as per Rule? (turbines only) -

Is an alarm device fitted to indicate failure or reduction of supply from the pumps? yes

No. of oil coolers see sheet 1	NO. OF DUPLEX OIL STRAINERS	SUCTION one	PRESSURE one
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Are the strainers of magnetic type? no

None:—The particulars in this report are to be given as fully and as clearly as possible. Where the answer is "NO" or "NONE" say so. Ticks and other signs of doubtful meaning are not to be used. Wording not applicable to be cancelled.

INDEPENDENT PUMPS	SERVICE FOR WHICH EACH PUMP IS CONNECTED TO BE MARKED THUS ×														
	SUCTION							DELIVERY							
Name below each essential pump and state its position. Give capacities of bilge pumps	Bilge Main	Bilge Direct	Ballast Main	Oil Fuel Tanks	Condenser Extraction	Sea	Feed Tanks	freshwater cooling	Boiler Feed	Main Condenser	Oil Fuel Burners	Oil Fuel Tanks	Fire Main	Overboard	piston cooling
One main sea water circ. pump ps.forward		X				X									X
2 aux.eng.sea water circ. pumps starb.inb-outb.						X									X
2 fresh coolingw.pumps for ME.ps.F&A								X							
2 ME piston coolingw. pumps ps.F&A								X							X
2 O.F.valve coolingw. pumps forw.F&A								X							
One lub.oil transferp. starb.aft															
2 O.F.booster pumps ps.forw.inb-outb.				X								X			
2 O.F.transfer pumps starb.aft F-A				X								X			
2 gen.serv.pumps cap. 260 m3/h. ps.F&A	X	X	X			X							X	X	
Aux.bilge pump cap.29,5 m3/h. ps.aft	X	X	X			X									X
2 La Mont B.circ.pumps forw.platf.deck ps.inb.-outb.									X						
2 steam/air dr.feedp. platf.deck starb.inb-outb.							X		X						
Emerg.fire pump diesel dr.fitted in tunnel						X							X		
Aux.boiler unit pump platf.deck ps.forward				X						X					

BILGE SUCTIONS
 No. and size in each hold, deep tank, cofferdam and pump room
 Hold I: 2x80mm. - Hold II: 2x80mm.
 Hold III: 2x80mm. Deep tanks each 80mm.
 Tweendeck hold III p&s: 80mm.
 Cofferdam ER. forw. 80mm.
 Cofferdam ER. aft 80mm.
 Hold IV 2x100mm. - Hold V 3x100mm.

Sizes and positions of direct suction in machinery spaces
 Starboard aft 150mm.
 ps.aft 150mm.

No. and size connected to main bilge line in:-
 Main engine room 3x80 mm.
~~Aux. bilge pump~~ -
~~Boiler~~ -
 Tunnel 1x80mm.

Sizes and positions of emergency suction in machinery spaces
 Starboard: 250mm.
 Are all suction of non-return type? yes

Has the bilge or ballast system means for separating oily water on the overboard discharge side? only in connection with aux. bilge pump.
 Do the pumping arrangements comply with the Rules, including special requirements for oil fuel tanks? yes
 (Strike out words not applicable)

STEERING GEAR. (State type, also No. of steam engines, electric motors, hydraulic pumps and other particulars, including particulars of the alternative means of steering)

Electric hydraulic steering gear - Hastie & Co.
 No.9758/9 4 cylinders - 2 pumps with 2 elec.
 Motors, Certificate Greenock C225.



Ship's Name "GUANG MING"

Port ROTTERDAM

Rpt. No. 60636

STEAM AND OIL ENGINE AUXILIARIES

REF	POSITION OF EACH	TYPE	MADE BY
a	Starboard forward in E.R.	Stork-Ricardo BR 216-No.9064	Stork N.V.
b	Starboard aft inb.in E.R.	" No.9063	Stork N.V.
c	Starboard aft outb. in E.R.	" No.9062	Stork N.V.
d	Starboard	AD air-cooled	Coventry-Victor
e	in tunnel recess aft	H DW-2	Coventry Victor
f	boatdeck casing p.s...	A2M-504 No.4071666/67	Deutz N.V.
g			
h			

REF	PORT & No. OF REPORT OR CERTIFICATE	DRIVEN MACHINERY (for electric generators state kw, volts & amps)
a	Amsterdam	Generator 200KW - 220 V 910A
b	"	" " " "
c	"	" " " "
d	Cert. Birmingham C88960	Emergency compressor
e	---	Emergency fire pump
f	---	Emergency generator 230V-65A 15KW
g		
h		

If electric current is used for essential services at sea, state the minimum No. and capacity of generators required

- (1) So that the ship may operate at sea One à 90%
- (2) For refrigerated cargo purposes

Has the spare gear required by the Rules been supplied? **yes**
 Has all the machinery been tried under full working conditions & found satisfactory? **yes**

Date & duration of full-power sea trials of main engines 22/4 & 23/4-'65
 Has the manoeuvring of the main engines been tried and found satisfactory? **yes**
 16 hours

DECLARATION TO BE SIGNED BY INSTALLING ENGINEERS

To the best of our knowledge this machinery has been installed in conformity with the Rules, Regulations and requirements of Lloyd's Register of Shipping, and the foregoing particulars of main and auxiliary machinery and pressure vessels (as shown on sheets 1, 2 & 3) are correct.

N.V. Koninklijke M.J. "De Scheide"
 p. proc. *J.G. Martens*

(date)

(signature)

A previous similar case was for (name)

m.s. "SEA CORAL" - "SEA AMBER" Rotterdam
 Port and Rpt. No. 56885-58868

IDENTIFICATION MARKS (copies of certificates to be forwarded)

- Thrust shaft LLOYD'S VNA.16322 FK 2-6-64
- Intermediate shafts LLOYD'S HNO.896 KF 16-9-64
 LLOYD'S HNO.898 KF 14-9-64
 LLOYD'S HNO.911-897-895-912 KF 11-9-64
 LLOYD'S HNO.917 GS 12-8-64
- Screw and tube shafts LR.HNO. 900
 FK.18-9-64
 Spare: LR.HNO.901
 FK.11-9-64
- Propellers LR.ROT. No. 375
 JvD 13-5-64
 Spare: Cast iron LLOYD'S ROT.
 AvH 25-5-64
- Other important items



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DATES OF APPROVAL OF PLANS

Straight shafting	15-3-'62	Oil burning arrangements	15-8-'62
		Compressed air system	4-5-'64
Air receivers		Main steam pipes	
XXXXXX		Boiler feed system	15-8-62
Reversing gear & control		Main boilers	
Flexible coupling			
Separate fuel tanks	10-10-62	Superheaters	
General pumping arrangements	15-8-62		
Bilge, ballast & oil fuel pumping arrangements in the machinery space	8-10-64	Aux. boilers	Glasgow F.E. 285
	15-8-62	Diesel engines	
Oil fuel piping & fittings at settling & service tanks	15-8-62	Feed water economisers	
		E. G. E.	27-4-62
		Steam heated steam generators	
		Propeller (including spare, if supplied)	21-2-62
Carriage of pumping arrangements			
		Stern gear	
		Oil-retaining gland / (if not shown on shafting plan)	

DATES OF EXAMINATION OF:-

Fitting of stern tube	28-12-65	Alignment* of straight shafting	1-2-65 light condition
Fitting of propeller	6-1-65	Testing of pumping arrangements	15-4-65
Completion of sea connections	12-2-65	Oil fuel lines	21-4-65
Alignment* of crankshaft on board	10-3-65	Boiler supports	12-2-65
Alignment* of main engine & reserve	light condition	Steering machinery	22-4-62
Holding down bolts & chocks	24-2-65	Windlass	22-4-62

*State if aligned when ship in light, ballast or loaded condition

† The machinery reported above has been constructed and installed under Special Survey in accordance with the Rules, approved plans and Secretary's letters. The materials and workmanship are good, the spare gear required by the Rules has been supplied and the machinery is eligible, in my opinion, to be classed. ‡ + LMC 4-'65, T.S.(CL) 4-'65, 1 Aux. boiler 100 lbs. 4-'65.

NOTE: Screwshaft keyways: The keyways of working and spare screwshaft comply with C 1002 of the Rules and may be recommended for four yearly surveys.

A.C. van Bezuije

A.C. van Bezuije.
Surveyor to Lloyd's Register of Shipping

Date of Committee **FRIDAY 18 JUN 1966**

Minute *LMC ES*
ABS
SPS
TS(CL) } **5.65**

- † (a) If the installation contains any features of a novel or experimental nature, give particulars.
- (b) If centralised and/or bridge control is fitted for main propelling and/or essential auxiliary machinery, state on a Rpt.-(cont.) where the control room is situated, the machinery controlled from it and give a brief description of the control system, including any automatic system for controlling essential auxiliary machinery.
- ‡ Include any special notation to be assigned.



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NOTE.—Where existing machinery is submitted for classification, the circumstances are to be explained as fully as possible, and the recommendations should be suitably amended.