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No. 5625

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

Date of writing Report 12th June 1950 When handed in at Local Office 19 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 9th March 1950 Last Survey 26th May 1950
 Reg. Book. 36559 on the M.V. "BRITISH CONSUL" (No. of Visits 8655)
 Tons { Gross 8655
 Net 4995
 Built at Glasgow By whom built Harland & Wolff Ltd. Yard No. 1399C When built 6/50
 Owners The British Tanker Co. Ltd. Port belonging to LONDON
 Installation fitted by Harland & Wolff Ltd. When fitted 6/50
 Is vessel equipped for carrying Petroleum in bulk Yes Is vessel equipped with D.F. Yes E.S.D. Yes Gy.C. Yes Sub.Sig. ✓ Radar Yes

Plans, have they been submitted and approved Yes System of Distribution Two cond. insul. Voltage of Lighting 110
 Heating 110 Power 110 D.C. or A.C., Lighting DC Power DC If A.C. state frequency ✓

Prime Movers, has the governing been found as per Rule when full load is thrown on and off Yes Are turbine emergency governors fitted with a trip switch ✓ Generators, are they compound wound Yes, and level compounded under working conditions Yes, if not compound wound state distance between generators ✓ and from switchboard ✓ Are the generators arranged to run in parallel Yes, are shunt field regulators provided Yes Is the compound winding connected to the negative or positive pole negative Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing ✓ Have certificates of test for machines under 100 kw. been supplied Yes and the results found as per Rule Yes

Position of Generators Engine room both platform; 1 diesel + 1 steam set stbd., 1 diesel set port side. Is the ventilation in way of generators satisfactory Yes are they clear of inflammable material and protected from mechanical injury and damage from water, steam and oil Yes Switchboards, where are main switchboards placed Engine room starboard side above the steam generating set.

are they in accessible positions, free from inflammable gases and acid fumes and protected from mechanical injury and damage from water, steam and oil Yes, what insulation is used for the panels Ebony sindampo., if of synthetic insulating material is it an Approved Type Yes, if of semi-insulating material (slate or marble) are all conducting parts insulated therefrom as per Rule ✓ Is the construction as per Rule, including locking of screws and nuts Yes Description of Main Switchgear for each generator and arrangement of equaliser switches Triple pole air break C/breakers with over-current & reverse current protection. Oil dashpot timing. R/V coils interlocked with shore supply switch.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit D.P. Knife switches + indicating cartridge type fuses in each pole.

Are compartments containing switchboards composed of fire-resisting material or lined as per Rule Yes Instruments on main switchboard 4 ammeters 2 voltmeters ✓ synchronising devices. For compound machines in parallel are the ammeters and reversed current protection devices connected on the pole opposite to the equaliser connection Yes Earth Testing, state means provided Two lamps connected in series - mid point earthed.

Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an Approved Type Yes, make of fuses Siemens "TZ", are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate 350/1050a for 75kw. 340/420a for 30kw., and at what current do the reversed current protective devices operate 80a/40a.

Joint Boxes, Section Boards and Distribution Boards, is the construction as per Rule Yes

Cables, are they insulated and protected as per Rule Yes, if otherwise than as per Rule are they of an Approved Type ✓, state maximum fall of pressure between bus bars and any point under maximum load 4 volts, are the ends of all cables having a sectional area of 0.01 square inch and above provided with soldering sockets Yes Are all paper insulated and varnished cambric insulated cables sealed at the ends Yes Are all the cable runs in accessible positions, not exposed to drip or accumulation of water or oil, high temperatures or risk of mechanical damage Yes, are any cables laid under machines or floorplates Yes, if so, are they adequately protected Yes Are cables in machinery spaces, galleys, laundries, etc., lead covered Yes or run in conduit ✓ or of the "HR" type ✓ State how the cables are supported or protected Clipped to solid or perforated steel tray, direct to structural steelwork or to woodwork. Protected by steel plate covers as required.

Are all lead sheaths, armouring and conduits effectually bonded and earthed Yes Are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes, where unarmoured cables pass through beams, etc., are the holes effectively bushed Yes Refrigerated chambers, are the cables and fittings as per Rule Yes (ship stores only)

Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule... *Yes* Emergency Supply, state position... *Small battery + automatic control panel below + forward of the main switchboard*

Navigation Lamps, are they separately wired... *Yes* controlled by separate double pole switches and fuses... *Yes* Are the switches and fuses in a position accessible only to the officers on watch... *Yes* is an automatic indicator fitted... *Yes* Is an alternative supply provided... *Yes*

Secondary Batteries, are they constructed and fitted as per Rule... *Yes*, are they adequately ventilated... *Yes* state battery capacity in ampere hours... *45 A.H. - Engine room emergency lighting only.*

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, weatherproof... *Yes* Are any fittings installed where readily combustible materials or inflammable or explosive dust or gases are likely to be present... *Yes* if so, how are they protected... *Flameproof fittings installed.* and where are the controlling switches fitted... *In adjacent accommodation* Are all fittings suitably ventilated... *Yes*

Searchlight Lamps, No. of... *1*, whether fixed or portable... *Portable*, are they of the carbon arc or of the filament type... *✓*

Heating and Cooking, is the general construction as per Rule... *Yes*, are the frames effectually earthed... *Yes*, are heaters in the accommodation of the convection type... *✓* Motors, are all motors constructed and installed as per Rule and placed in well-ventilated compartments in which inflammable gases cannot accumulate and protected from damage from water, steam and oil... *Yes*

Are motors coupled to oil fuel transfer and pressure pumps capable of being stopped from a position accessible in the event of fire in the pump compartment... *✓* Have motors of 100 BHP and over been inspected by the Surveyors during manufacture and testing... *✓*

Have certificates of test for motors under 100 BHP intended for essential sea services been supplied and the results found as per Rule... *Yes*

Control Gear and Resistances, are they constructed and fitted as per Rule... *Yes* Lightning Conductors, where required are they fitted as per Rule... *✓* Ships carrying Oil having a Flash Point less than 150° F. Have all the special requirements of the Rules for such ships been complied with... *Yes*, are all fuses of an Approved Cartridge Type... *Yes*, make of fuse... *Siemens 'T2'* Are the fittings for pump rooms, 'tween deck spaces, etc., in accordance with the special requirements for such ships... *Yes* Are the cables lead covered as per Rule... *Yes*

E.S.D., if fitted state maker... *Siemens Bros* location of transmitter... *E/R DB tank fwd* and receiver... *do.*

Spare Gear, if the vessel is for open sea service have spares been provided as per Rule and suitably stored in dry situations... *Yes*

Insulation Tests, has the insulation resistance of all circuits and apparatus been tested and found satisfactory... *Yes*

PARTICULARS OF GENERATING PLANT.

DESCRIPTION OF GENERATOR.	No. of	MAKER.	RATED AT				PRIME MOVER.	
			Kilowatts per Generator.	Volts.	Ampères.	Revs. per Min.	TYPE.	MAKER.
MAIN ...	2	<i>Harland & Wolff Ltd.</i>	75	110	682	500	<i>3-1/2 pl. oil eng.</i>	<i>Harland & Wolff Ltd.</i>
	1	<i>Sunderland Forge</i>	30	110	273	500	<i>Steam eng. (vert. scda)</i>	<i>Sunderland Forge.</i>
EMERGENCY ...	✓							
ROTARY TRANSFORMER	✓							

GENERATOR CABLES.

DESCRIPTION.	KILOWATTS.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
		No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
MAIN GENERATOR ...	75	1	91/103	682	782	120/240	VC	LSAB
" " EQUALISER ...	-	1	61/093	-	492	60/120	"	"
	30	1	37/093	273	363	80	"	"
	-	1	37/072	-	260	40	"	"
EMERGENCY GENERATOR ...								
ROTARY TRANSFORMER: MOTOR								
" " GENERATOR...								

MAIN DISTRIBUTION CABLES (to Section Boards, Distribution Fuse Boards, etc.).

DESCRIPTION.	No.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
<i>Shore supply.</i>	1	37/072	-	260	140	VC	LSAB
<i>Midship masterboard (Power + lighting)</i>	1	37/093	228	363	560	"	"
<i>" " (Radar + W/T)</i>	1	"	60	"	"	"	"
<i>M/E Turning gear.</i>	1	19/052	80	110	40	"	"
<i>Aft lighting + small power. 5B1.</i>	1	"	85	"	110	"	"
<i>Aft boat winches DB.</i>	1	"	90	"	"	"	"
<i>Oil purifiers DB. M2.</i>	1	"	83	"	40	"	"
<i>Aft accom + E/R tent. DB. F1.</i>	1	7/064	55	80	64	"	"
<i>E/R lighting. 5B2.</i>	1	"	56	"	60	"	"
<i>Refing. plant (ship stores)</i>	1	"	51	"	330	"	"
<i>Workshop motors DB. M1.</i>	1	"	55	"	64	"	"
<i>F.D. fan (Aux. Boilers)</i>	1	"	67	"	100	"	"

LIGHTING, HEATING, WIRELESS, NAVIGATION LIGHTS, ETC., CABLES.

DESCRIPTION.	CONDUCTORS.		MAXIMUM CURRENT IN AMPERES.		APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
	No. in Parallel per Pole.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.			
CIRCUITS ON MIDSHIP MASTER BOARD.							
<i>3/4 Projector.</i>	1	19/052	30	110	280	VC	LSAB
<i>Lighting. DB1. Wheelhouse + navigation</i>	1	7/044	30	31	210	VIR	LSB
<i>Lighting + all navigation. DB2.</i>	1	"	15	"	170	"	"
<i>Lighting Upper + Bridge decks. DB3.</i>	1	"	22	"	140	"	"
<i>Lighting. DB4.</i>	-	<i>Buss bar</i>	47	-	-	-	-
<i>Lighting. DB5.</i>	-	"	40	-	-	-	-
<i>Wireless.</i>	1	7/064	30	80	106	VC	LSB
<i>Radar.</i>	1	"	45	"	220	"	"
<i>Echo sounding.</i>	1	7/036	5	24	180	VIR	"
<i>Hospital Air conditioning plant.</i>	1	"	14	"	60	"	"
<i>Accommodation vent. fan #1.</i>	1	7/044	23	31	160	"	"
<i>" " " #2.</i>	1	"	"	"	128	"	"
<i>Boat wind, port.</i>	1	7/064	65	80	156	VC	"
<i>" " " starboard.</i>	1	"	"	"	120	"	"

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	No.	Sectional Area or No. and Dia. of Strands. Sq. ins. or sq. mm.	In the Circuit.	Rule.	APPROX. LENGTH (lead plus return feet).	INSULATION.	PROTECTIVE COVERING.
<i>Refing. stores compressors.</i>	2	4	1	7/064	35	80	30	VC	LSAB
<i>Purified F.O. pump.</i>	1	0.75	1	3/036	8	10	160	VIR	"
<i>S.W. Coo. pump, Aux. engines.</i>	1	3	1	7/044	25	31	100	"	"
<i>F.D. fan, Aux. Boilers.</i>	1	7	1	7/064	67	80	20	VC	"
<i>L.O. Purifiers.</i>	2	3	1	7/064	25	31	60	VIR	"
<i>F.O. Purifiers.</i>	1	3	1	"	"	"	140	"	"

The Electrical Equipment is installed in accordance with the approved plans and the requirements of the Rules.
 All Insulated Conductors are guaranteed to have been tested at the maker's works as specified in the Rules.
 The foregoing is a correct description.

For HARLAND AND WOLFF, LIMITED,
[Signature]
 Govan Secretary

Electrical Contractors.

Date 16th June 1950

COMPASSES.

Have the compasses been adjusted under working conditions.....

Yes

For HARLAND AND WOLFF, LIMITED,
[Signature]
 Govan Secretary

Builder's Signature.

Date 16th June 1950

Have the foregoing descriptions and schedules been verified and found correct.....

Yes

Is this installation a duplicate of a previous case.....

Yes

If so, state name of vessel.....

MV "British Commander"

Plans. Are approved plans forwarded herewith.....

No

If not, state date of approval.....

30. 4. 49

Certificates. Are certificates of test for motors engaged on essential sea services and generators forwarded herewith.....

Yes

General Remarks. (State quality of workmanship, whether insulation tests, etc., have been made, opinions as to class, etc.).....

The electrical installation fitted in this ship has been installed under the supervision of the Surveyors, tested under full working conditions & found satisfactory. The materials & workmanship are good.

Noted SWH 14/8/50.

Total Capacity of Generators..... 180 ✓ Kilowatts.

The amount of Fee ...

£ 67 : -

When applied for,

17 JUL 1950

When received,

19.....

Travelling Expenses (if any) £

S.B. Johnson

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 20 JUL 1950

Assigned

SEE ACCOMPANYING MACHINERY REPORT

2m 0.46.—Transfer. (MADE AND PRINTED IN ENGLAND.)
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)



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