

Rpt. 13.

No. 75168

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

23 MAR 1950

Date of writing Report 7th March 1950 When handed in at Local Office 15/3 19 50 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 13th Dec '49 Last Survey 16th Feb. 1950

Reg. Book. (No. of Visits) 8600

on the m.v. "BRITISH COMMANDER" Tons Gross 8600 Net 8600

Built at Govan By whom built Harland & Wolff Ltd Yard No. 1398C When built 2/50

Owners The British Tanker Co. Ltd. Port belonging to London

Installation fitted by Harland & Wolff Ltd. When fitted 2/50

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 bot. platform, 1 diesel + 1 steam set Starboard, 1 diesel set Port.

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 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 sandanap, 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 dead pot timing.

and the switch and fuse gear (or circuit breakers) for each outgoing circuit D.P. Knife switches + cartridge type indicating 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 Lamps permanently connected

Switches, Circuit Breakers and Fuses, are they as per Rule Yes, are the fuses an Approved Type Yes, make of fuses Siemens T Z, are all fuses labelled Yes If circuit breakers are provided for the generators, at what overload do they operate 340/420 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 (ships' stores only)

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

Alternative Lighting, are the groups of lights in the engine and boiler rooms arranged as per Rule Yes Emergency Supply, state position Battery - automatic control panel below main switch board

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 AH - 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
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 hold and receiver E/R DB tank fwd hold

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	Harland & Wolff Ltd	75	110	682	500	3cy. oil engine	Harland & Wolff Ltd.
	1	Sunderland Forge	30	110	273	500	Steam engine (vert. scda)	Sunderland Forge
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	LCAB
" " 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. in Parallel per Pole.	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.
Main supply	1	37/072	-	260	140	VC	LCAB
Midship Masterboard (Power & lighting)	1	37/093	228	363	560	"	"
" " (Radar & W/T)	1	"	60	"	"	"	"
M/E Draining gear	1	19/052	80	110	40	"	"
off lighting & small power. S.B.1.	1	"	85	"	110	"	"
off Boat Ladders DB	1	"	90	"	110	"	"
oil purifiers DB (M2)	1	"	83	"	40	"	"
off accomm. & E/R vent. DB (F1)	1	7/064	55	80	64	"	"
E/R lighting. S.B.2	1	"	56	"	60	"	"
Refrig. plant (ships' stores)	1	"	51	"	330	"	"
Workshop motors DB (M1)	1	"	55	"	64	"	"
F.O. fan (Aux. Boilers)	1	"	67	"	100	"	"

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 MASTERBOARD							
S/L Projector	1	19/052	30	110	280	VC	LCB
Lighting D.B.1	1	7/064	30	31	210	VIR	"
Accomm. vent. fan #1	1	"	23	"	160	"	"
" " " #2	1	"	"	"	128	"	"
Boat hatch, Port	1	7/064	65	80	156	VC	"
" " Starboard	1	"	"	"	120	"	"
wireless	1	"	30	"	106	"	"
Echo sounding	1	7/036	5	24	180	VIR	"
Radar	1	7/064	45	80	220	VC	"
Lighting D.B.5	1	Bus bar	40	-	-	-	-
Lighting & all. Navigation D.B.2	1	7/064	15	31	170	VIR	LCB
Lighting Upper Bridge deck D.B.3	1	"	22	"	140	"	"
Hospital Air conditioning plant	1	7/036	14	24	60	"	"
Lighting D.B.4	-	Bus bar	47	-	-	-	-

MOTOR CABLES.

ALL IMPORTANT MOTORS TO BE ENUMERATED.	No.	B.H.P.	No. in Parallel per Pole.	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.
Refrig. plant compressor	2	4	1	7/064	35	80	30	VC	LCAB
Purifier F.O. pump	1	1/4	1	3/036	8	10	160	VIR	"
S.W. circ. pump. Aux. engines	1	3	1	7/044	25	31	100	"	"
F.O. fan. Aux. Boilers	1	7	1	7/064	67	80	20	VC	"
L.O. Purifiers	2	3	1	7/044	25	31	60	VIR	"
F.O. Purifiers	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,

R. J. Allen
Govan Secretary.

Electrical Contractors.

Date 13. 3. 50

COMPASSES.

Have the compasses been adjusted under working conditions.

Yes

For HARLAND AND WOLFF, LIMITED,

R. J. Allen
Govan Secretary.

Builder's Signature.

Date 13. 3. 50

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 Captain"

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 *See* 31/3/50

Total Capacity of Generators 180 Kilowatts.

The amount of Fee ...

£ 67 : -

When applied for,

8 MAR 1950

When received,

19

Travelling Expenses (if any) £

S. B. Johnson

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 22 MAR 1950

Assigned

See F. E. Macky Rpt.

2m. 9. 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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