

REPORT ON ELECTRICAL EQUIPMENT.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

16 DEC 1936

Received at London Office

Date of writing Report 7th Dec 1936 When handed in at Local Office 14. 12. 1936 Port of GlasgowNo. in Survey held at Greenock Date, First Survey 12. 10. 36 Last Survey 4th Dec 1936
Reg. Book. 87483 on the M.V. "BRITISH TRIUMPH" (Number of Visits.....)Tons { Gross 8402
Net 5008

Built at PORT GLASGOW By whom built Lithgows Ltd Yard No. 886 When built 1936

Owners BRITISH TANKER CO. LTD. Port belonging to LONDON.

Electric Light Installation fitted by The Sunderland Forge & Eng Co Ltd Contract No. 886 When fitted 1936

Is the Vessel fitted for carrying Petroleum in bulk Yes.

System of Distribution

Two Wires

Pressure of supply for Lighting 110 ✓ volts, Heating 110 ✓ volts, Power 110 ✓ volts.

Direct or Alternating Current, Lighting

Direct

Power

Direct ✓

If alternating current system, state frequency of periods per second —

Has the Automatic Governor been tested and found efficient when the whole load is suddenly thrown on or off Yes ✓

Generators, do they comply with the requirements regarding temperature rise Yes ✓, are they compound wound Yes ✓

are they over compounded 5 per cent. Yes ✓, if not compound wound state distance between each generator —

Where more than one generator is fitted are they arranged to run in parallel Yes ✓, is an adjustable regulating resistance fitted in series with each shunt field Yes ✓

Have certificates of test results for machines under 100 kw. been submitted and approved Yes ✓ Have machines over 100 kw. been inspected by the Surveyors during manufacture and testing —

Are all terminals accessible, clearly marked, and furnished with sockets Yes ✓, are they so spaced or shielded that they cannot be accidentally earthed, short circuited, or touched Yes ✓

Position of Generators In Engine Room Bottom Platform ✓, is the ventilation in way of the generators satisfactory Yes ✓ are they clear of all inflammable material Yes ✓ if situated near unprotected

woodwork or other combustible material, state distance of same horizontally from or vertically above the generators. — and —, are the generators protected from mechanical injury and damage from water, steam or oil Yes ✓, are their axes of rotation fore and aft Yes ✓

Earthing, are the bedplates and frames of the generating plant efficiently earthed Yes ✓ are the prime movers and their respective generators in metallic contact Yes ✓ Main Switch Boards, where placed In Engine Room on Special platform

If the generators and main switchboard are not placed in the same compartment, is each generator provided with a fuse on each insulated pole as near as possible to the terminals of the generator, additional to that provided on the main switchboard —

Switchboards, are they placed in accessible positions, free from inflammable gases and acid fumes Yes ✓, are they protected from mechanical injury and damage from water, steam or oil Yes ✓, if situated near unprotected woodwork or other combustible material, state distance of same

horizontally from or vertically above the switchboards — and —, are they constructed wholly of durable, non-ignitable non-absorbent materials Yes ✓, is all insulation of high dielectric strength and of permanently high insulation resistance Yes ✓

is it of an approved type Yes ✓, if semi-insulating material is used, are all conducting parts insulated from the slab with mica or micanite or other non-hygroscopic insulating material, and the slab similarly insulated from its framework Yes ✓, is the non-hygroscopic insulating material of an approved

type Yes ✓, and is the frame effectively earthed Yes ✓. Are the fittings as per Rule regarding: — spacing or shielding of live parts Yes ✓, accessibility of all parts Yes ✓, absence of fuses on back of board Yes ✓, temperature rise of

omnibus bars Yes ✓, individual fuses to voltmeter, pilot or earth lamp Yes ✓, are moving parts of switches alive in the "off" position No ✓ are all screws and nuts securing connections effectively locked Yes ✓ are any fuses fitted on the live side of

switches No ✓ Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches Triple Pole 0/1 Circuit Breakers (one pole Equaliser) with R/C trips for each 30 KW. Generator. DP switches & fuses for 3 KW. Generator DP Switch & fuses for each outgoing circuit.

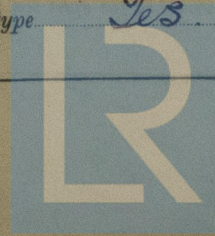
Are turbine driven generators fitted with emergency trip switch as per rule — Are cupboards or compartments containing switchboards composed of fire-resisting material or lined with approved material — Instruments on main switchboard 12 ✓ ammeters 3 ✓

voltage meters — synchronising device for paralleling purposes. For compound machines is the ammeter connected on the opposite pole to equaliser connection Yes ✓

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system Earth Lamps ✓

Switches, Circuit Breakers and Fusible Cut-outs, do these comply with the requirements of the Rules Yes ✓ are the fusible cutouts of an approved type Yes ✓ have the reversed

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current protection devices been tested under working conditions Yes Joint Boxes, Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule Yes

Cables: Single, twin, concentric, or multicore Single are the cables insulated and protected as per Tables IV, V, X or XI of the Rules Yes

If the cables are insulated otherwise than as per Rule, are they of an approved type 5.0 Volts Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 5.0 Volts Cable Sockets, are the ends of all cables having a sectional area of 0.04 square inch and above provided with soldering sockets Yes Paper Insulated and Varnished Cambric Insulated Cables.

If conductors are paper or varnished cambric insulated, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound Yes or waterproof insulating tape Yes Cable Runs, are the cables fixed as far as possible in accessible positions not exposed to drip or accumulation of water or oil, or to high temperature from boilers, steam pipes, uptakes or other hot objects, or to avoidable risk of mechanical damage Yes Are cables in machinery spaces, galleys, laundries, bathrooms and lavatories lead covered or run in conduit Yes

Support and Protection of Cables, state how the cables are supported and protected Mains L.C.A.B. in galvanised tubing secured to Fore & Aft Gangway Machinery Spaces, clipped to trays, Accommodation L.C.B. clipped to steel & woodwork.

If cables are run in wood casings, are the casings and caps secured by screws Yes, are the cap screws of brass Yes, are the cables run in separate grooves Yes If armoured and lead covered cables are secured by metal clips, are the clips spaced as per Table VIII Yes

Refrigerated Chambers, are the cables and fittings in accordance with the special requirements None

Joints in Cables, state if any, and how made, insulated, and protected None

Watertight Glands and Deck Tubes, are all cables passing through decks and watertight bulkheads provided with deck tubes or watertight glands Yes Bushes in Beams and Non-watertight Partitions, where unarmoured cables pass through beams and non-watertight partitions, are the holes efficiently bushed Yes state the material of which the bushes are made Lead

Earthing Connections, state what earthing connections are fitted and their respective sectional areas Lead and armouring of cables efficiently bonded and earthed by means of clips or bonding glands. are their connections made as per Rule Yes

Alternative Lighting, are the groups of lights in the propelling machinery space arranged as per Rule Yes Emergency Supply, state position and method of control of the emergency supply and how the generator is driven Yes

Navigation Lamps, are these separately wired Yes, controlled by separate switch and separate fuses Yes, are the fuses double pole Yes are the switches and fuses grouped in a position accessible only to the officers on watch Yes has each navigation lamp an automatic indicator as per Rule Yes Secondary Batteries, are they constructed and fitted as per Rule Yes

Fittings, are all fittings on weather decks, in stokeholds and engine rooms and wherever exposed to drip or condensed moisture, watertight Yes are any fittings placed in spaces in which goods are liable to be stacked in close proximity to them; if so, how are they protected Yes - in Pump Rooms and Bridge Space - Lamps in Gastight Fittings. how are the cables led in gastight galvanised tubing.

where are the controlling switches situated in accommodation midships.

are all fittings suitably ventilated Yes, are all switches and lampholders constructed wholly of non-ignitable, non-absorbent materials Yes

Heating and Cooking Appliances, are they constructed and fitted as per Rule Yes, are air heaters constructed and fitted as per Rule Yes

Searchlight Lamps, No. of 1, whether fixed or portable Yes, are their fittings as per Rule Yes

Arc Lamps, other than searchlight lamps, No. of 1, are their live parts insulated from the frame or case Yes, are their fittings as per Rule Yes

Motors, are their working parts readily accessible Yes, are the coils self-contained and readily removable for replacement Yes are the brushes, brush holders, terminals and lubricating arrangements as per Rule Yes, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material Yes are they protected from mechanical injury and damage from water, steam or oil Yes are their axes of rotation fore and aft Yes where possible if situated near unprotected woodwork or other combustible material, are the motors of the totally enclosed, pipe ventilated, forced draught, drip or flame proof type Yes if not of this type, state distance of the combustible material horizontally or vertically above the motors Yes and Yes

have machines of over 100 BHP been inspected by the Surveyors during manufacture and testing Yes Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed and fitted as per Rule Yes Lightning Conductors, where lightning conductors are required, are these fitted as per Rule Yes Ships carrying Oil having a Flash Point less than 150° F. Have the special requirements of the Rules been complied with regarding switches, joint boxes, section and distribution boards, protection of cables, method of distribution, lead of cables, lights and fittings Yes are all fuses of the filled cartridge type Yes are they of an approved type Yes

If portable lamps for use in dangerous spaces are supplied, are they of a self-contained, battery-fed type approved by the Home Office Yes

Spare Gear, if the vessel is for open sea service have spares been supplied as per Rule Yes

PARTICULARS OF GENERATING PLANT.									
DESCRIPTION OF GENERATOR.	No. of	RATED AT				DRIVEN BY	WHERE DRIVEN BY AN INTERNAL COMBUSTION ENGINE.		
		Kilowatts.	Volts.	Ampères.	Revs. per Min.		Fuel Used.	Flash Point of Fuel.	
MAIN	2	30	110	273	600	1 Steam Engine: 1 Oil Engine			
AUXILIARY	1	8	110	73	750	Steam Engine			
EMERGENCY									
ROTARY TRANSFORMER									

GENERATOR, LIGHTING AND HEATING CONDUCTORS.										
DESCRIPTION.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.	
	No. per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	Circuit.	Rule.				
MAIN GENERATOR	2	.150	19	.072	273	282	70	Varn Cambic	L.C.B.	
EQUALISER CONNECTIONS	1	.075	19	.072	—	141	35	" "	"	
AUXILIARY GENERATOR	1	.04	19	.052	73	94	130	" "	"	
EMERGENCY GENERATOR										
ROTARY TRANSFORMER	} MOTOR GENERATOR...									
ENGINE ROOM.										
BOILER ROOM.	} D.B. 7.	2	.02	7	.044	38	62	140	Rubber	L.C.A.B.
AUXILIARY SWITCHBOARDS										
ACCOMMODATION										
MIDSHIP & FORD Ltg. SECT. BOX	1	.06	19	.064	41.2	122	670	Varn Cambic	L.C.A.B.	
NAVIGATION DB. 1	1	.0145	7	.052	11.9	51	780	" "	"	
FORECASTLE DB. 2	1	.0145	7	.052	9.5	51	500	" "	"	
SALOON STARBOARD DB. 3	1	.003	1	.064	11	12.9	100	Rubber	L.C.B.	
SALOON PORT DB. 4	1	.003	1	.064	11	12.9	80	Varn Cambic	L.C.A.B.	
WIRELESS	1	.01	7	.044	20	38	870	" "	"	
SEARCHLIGHT (WIRING ONLY)	1	.0225	7	.064	60	68	1460	" "	"	
MASTHEAD LIGHT	1	.003	1	.064	0.36	12.9	460	Rubber	L.C.A.B.	
SIDE LIGHTS	1	.003	1	.064	0.36	12.9	120	"	L.C.B.	
COMPASS LIGHTS	1	.003	1	.064	0.18	12.9	40	"	"	
SENIOR ENGRS Accom DB. 5	1	.01	7	.044	17.5	31	336	Rubber	L.C.A.B.	
JUNIOR ENGRS Accom DB. 6	1	.01	7	.044	7.8	31	96	"	L.C.B.	
ARC LAMPS										
HEATERS										

MOTOR CONDUCTORS.										
DESCRIPTION.	No. of Motors.	CONDUCTORS.		COMPOSITION OF STRAND.		TOTAL MAXIMUM CURRENT. AMPERES.		Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
		No. Per Pole.	Total Nominal Area per Pole Sq. Ins.	No.	Diameter.	In Circuit.	Rule.			
BALLAST PUMP										
MAIN BILGE LINE PUMPS										
GENERAL SERVICE PUMP										
EMERGENCY BILGE PUMP										
SANITARY PUMP										
CIRC. SEA WATER PUMPS										
CIRC. FRESH WATER PUMPS										
AIR COMPRESSOR										
FRESH WATER PUMP										
ENGINE TURNING GEAR	1	1	.04	19	.052	80	94	240	Varn Cambic	L.C.A.B.
ENGINE REVERSING GEAR										
LUBRICATING OIL PUMPS										
OIL FUEL TRANSFER PUMP										
WINDLASS										
WINCHES, FORWARD										
CRANK CASE FAN	1	1	.007	7	.036	11.2	24	180	Rubber	L.C.A.B.
WINCHES, AFT										
FORCED DRAUGHT FAN	1	1	.0145	7	.052	37	37	160	"	"
STEERING GEAR—										
(a) MOTOR GENERATOR										
(b) MAIN MOTOR										
WORKSHOP MOTOR	1	1	.007	7	.036	24	24	300	"	"
VENTILATING FANS SECT. B.O. 1		1	.04	19	.052	32	94	670	Varn Cambic	"
" " SECT. B.O. 2		1	.04	19	.052	40	94	64	"	"
FEED TO SB3 ER MOTORS		1	.04	19	.052	54.5	64	165	Rubber	"
REFRIG. MACHINE	1	1	.0225	7	.064	64	68	280	Varn Cambic	"
CRANE MOTOR	1	1	.007	7	.036	24	24	180	Rubber	"
SEPARATORS	3	1	.007	7	.036	21	24	60	"	"
OIL PUMP	1	1	.003	1	.064	5.25	12.9	60	"	"

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All Conductors are of annealed copper conforming to British Standard Specification No. 7 (or International Electro-technical Commission Publication No. 28).

The Insulated Conductors are guaranteed to withstand the immersion and resistance tests specified in the Rules.

The foregoing is a correct description.

P. Pro. THE SUNDERLAND FORGE & ENG. CO. LTD.

Electrical Engineers.

Date 10/12/36.

COMPASSES.

Distance between electric generators or motors and standard compass 210 Feet

Distance between electric generators or motors and steering compass 208 Feet

The nearest cables to the compasses are as follows:—

A cable carrying 11.9 Ampères 12 feet from standard compass 8 feet from steering compass.

A cable carrying 0.13 Ampères lead into feet from standard compass lead into feet from steering compass.

A cable carrying Ampères feet from standard compass feet from steering compass.

Have the compasses been adjusted with and without the electric installation at work at full power Yes

Has the effect of switching on and off circuits, motors and other electro-magnetic apparatus within the vicinity of the compasses been noted Yes

The maximum deviation due to electric currents was found to be Nil degrees on any course in the case of the standard compass, and Nil degrees on any course in the case of the steering compass.

LITHGOWS LIMITED.

John M. Fullerton Secretary

Builder's Signature.

Date 12/12/36.

Is this installation a duplicate of a previous case No. If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)

The electrical equipment of this vessel has been fitted on board under special survey, tested under full working conditions & found satisfactory. The materials and workmanship are good.

14/12/36

Noted
JRM
16.12.36

Total Capacity of Generators 68 Kilowatts.

The amount of Fee £ 29 : 6 : 0 at 40k.

Travelling Expenses (if any) £

9/-

When applied for,

When received.

18.12.36

Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 15 DEC 1936

Assigned SEE ACCOMPANYING MACHINERY REPORT.

2m.53. Transfer. The Surveyors are requested not to write on or below the space for Committee's Minute.



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