

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report 8 March 1923 When handed in at Local Office 15 March 1923 Port of Dundee

No. in Survey held at Dundee Date, First Survey 16th Oct. 1922 Last Survey 10th March 1923

Reg. Book. on the S.S. "British Commodore" (Number of Visits 16)

Built at Dundee By whom built Caledon S. B. & L. Co Yard No. 283 When built 1923

Owners British Tanker Co. Ltd. Port belonging to London

Electric Light Installation fitted by Sunderland Forge Co Contract No. _____ When fitted 1923

System of Distribution Lower 3 phase Alternating, Lighting 110 D.C. two wire

Pressure of supply for Lighting 110 volts, Heating _____ volts, Power 220 volts.

Direct or Alternating Current, Lighting Direct Power Alternating

If alternating current system, state frequency of periods per second 50

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 overload 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 _____, is an adjustable regulating resistance fitted in series with each shunt field yes ✓

Are all terminals accessible and clearly marked yes ✓, are they so spaced or shielded that they cannot be accidentally earthed, or short circuited yes ✓

Are the lubricating arrangements of the generators as per Rule yes ✓

Position of Generators Justo Alternators Port & Starboard on Gen platform, Steam motor generators on platform below, is the ventilation in way of the generators satisfactory yes ✓, are they clear of all inflammable material _____

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 _____

are their axis 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 On Generator platform for power & below for lighting

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, incombustible non-absorbent materials yes ✓, is all insulation of high dielectric strength and of permanently high insulation resistance yes ✓, if semi-insulating material is used, are all conducting parts connected to one pole insulated from the slab with mica or micanite and the slab similarly insulated from its framework none used, and is the frame effectively earthed yes ✓

Are the following fittings as per Rule, viz.:— spacing or shielding of live parts yes ✓, accessibility of all parts yes ✓, absence of fuses on back of board yes ✓, proportion of omnibus bars yes ✓, individual fuses to voltmeter, pilot or earth lamp yes ✓, connections of switches yes ✓

Main Switchgear, description of switchgear for each generator and each outgoing circuit, and arrangement of equalizer switches Circuit breakers with overload release for each generator or for each circuit as 3 way quick break knife switch.

Lighting a Double Pole main switch & double pole change over circuit switches

Instruments on main switchboard 4 ammeters 2 voltmeters 1 synchronising device for paralleling purposes.

" "lighting" " 2 _____

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 ✓

Section and Distribution Boards, is the construction, protection, insulation, material, and position of these as per rule yes ✓

Insulation of Cables, state type of cables, single or twin single twice are the cables insulated and protected as per Tables III or IV of the Rules 4/10

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load 3.75 volts

Cable Sockets and other connections, are the ends of all cables having a sectional area of 0.007 square inch and above provided with soldering sockets yes

Paper Insulated Cables. If cables are paper covered, is the dielectric at the exposed ends of the conductor protected from moisture by being suitably sealed with insulating compound 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 lighting cables run in troughing under 200 ft gangway, troughing filled with bitumen

Support and Protection of Cables, state how the cables are supported and protected Cables clipped to Bulkhead & trays with galvanized clips

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 VI yes

Refrigerated Chambers, if lights are fitted, are the cables and fittings in accordance with the special requirements yes

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

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 Positions, 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 Libre

Earthing Connections, state what earthing connections are fitted and their respective sectional areas none, 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, are separate screens provided for the use of oil and electric side lights yes, are separate oil lanterns provided for the mast head lights and side lights 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 none

are any fittings placed in spaces where inflammable or explosive dust or gases are liable to be present, if so, how are they protected yes in pump room protected by sheet of glass board, how are the cables led In galvanized steel pipe wholly outside pump room

where are the controlling switches situated underneath saloon deck space

Searchlight Lamps, No. of 1, whether fixed or portable fixed, 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 axis of rotation free and accessible for cleaning yes, 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 and

Control Gear and Resistances, are the generator field and motor speed regulators, starters and controllers constructed as per Rule yes

Lightning Conductors, where lightning conductors are required, are these fitted as per Rule On Rose & left mast

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

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office 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	120 KVA	220	400	1000	Kalam Tyburn through gearing		
AUXILIARY	1	10 KW	110	91	1440	A.C. Induction Motor		
EMERGENCY	1	10 KW	110	91	340	Simple Cylinder Steam Engine		
ROTARY TRANSFORMER								

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor, Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current, Ampères.	Approximate Length, (Lead and Return), Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	MAIN GENERATOR	3	.3024	24	.103	400	30	Paper	L.C.A. Braided
	AUXILIARY GENERATOR	2	.1009	19	.083	91	75	Rubber	"
	EMERGENCY GENERATOR	2	.1009	19	.083	91	75	"	"
	ROTARY TRANSFORMER	2	.1009	19	.083	91	75	"	"
	AUXILIARY SWITCHBOARDS	2	.0104	4	.044	12	20	"	"
	ENGINE ROOM	2	.0030	4	.036	4	150	"	"
	BOILER ROOM	2	.0600	19	.064	58	520	"	"
	Saloon & Navigation	2	.0104	4	.044	21	45	"	"
	WIRELESS	2	.0021	4	.064	-	545	Rubber	L.C.A. Braided
	SEARCHLIGHT	-	-	-	-	-	-	-	-
	MAIN MASTHEAD LIGHT	2	.0019	3	.029	2.24	248	"	"
	SIDE LIGHTS	2	.0019	3	.029	.78	70	"	"
	COMPASS LIGHTS	2	.0019	3	.029	2.24	318	"	"
	SEARCH LIGHTS	2	.0019	3	.029	2.24	318	"	"
	CARGO LIGHTS	2	.0030	4	.036	3.36	60	"	Cable Type Ref.
	ARC LAMPS								
	HEATERS								

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor, Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current, Ampères.	Approximate Length, Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
	BALLAST PUMP	1	.0030	4	.036	14.3	52	Paper	L.C.A. Braided
	MAIN BILGE LINE PUMP	1	.0030	4	.036	14.3	52	Paper	L.C.A. Braided
	GENERAL SERVICE PUMP								
	EMERGENCY BILGE PUMP								
	SANITARY PUMP								
	MAIN CIRC. SEA WATER PUMPS	2	.1009	19	.083	125	63	"	"
	CIRC. FRESH WATER PUMPS								
	AIR COMPRESSOR								
	FRESH WATER PUMP								
	ENGINE TURNING GEAR								
	ENGINE REVERSING GEAR								
	LUBRICATING OIL PUMP	1	.0030	4	.036	19	40	"	"
	OIL FUEL TRANSFER PUMP								
	WINDLASS								
	WINCHES, FORWARD								
	WINCHES, AFT								
	STEERING GEAR	1	.0221	4	.064	50	44	"	"
	WORKSHOP MOTOR								
	VENTILATING FANS								
	Corred 4 shaft pump	2	.0221	4	.064	86	54	"	"
	main feed pump	1	.0221	4	.064	50	45	"	"
	M/G lighting set	1	.0221	4	.064	50	25	"	"
	separator	1	.0030	4	.036	26	30	"	"
	M. S. S. pump	1	.0030	4	.036	50	40	Rubber	"
	main feed system	1	.0030	4	.036	8.5	25	"	high 2.5" lead

All Conductors are of annealed copper conforming to British Standard Specification No. 7.

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 & ENGINEERING CO. LTD.

Electrical Engineers.

Date 27th Feb. 1923.

Director.

COMPASSES.

Distance between electric generators or motors and standard compass 240 feet

Distance between electric generators or motors and steering compass 260 feet

The nearest cables to the compasses are as follows :-

A cable carrying 28 Ampères on the ~~port~~ side from standard compass 10 feet from steering compass.

A cable carrying 28 Ampères 10 feet from standard compass on the ~~starboard~~ side steering compass.

A cable carrying 6-6 Ampères 6 feet from standard compass 10 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 1/2 degrees on any course in the case of the standard

compass, and 1/2 degrees on any course in the case of the steering compass.

Handwritten signature and stamp: THE SUNDERLAND FORGE & ENGINEERING CO. LTD. GENERAL MANAGER

Builder's Signature.

Date 8/2/23.

Is this installation a duplicate of a previous case Yes If so, state name of vessel "British Commander"

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

This installation has been fitted onboard in accordance with the Rules. The materials and workmanship are sound and good, it has been tried under working conditions and found satisfactory in all respects.

It is submitted that this vessel is eligible for THE RECORD. Elec. Light. 16/3/23

Total Capacity of Generators Kilowatts

The amount of Fee ... £ 36 : 11 : { When applied for, 15/3/19.23. Travelling Expenses (if any) £ 2 : 2 : { When received, See debit book.

J. S. Rankin & J. Selles Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 20 MAR. 1923

Assigned

Im. 3.22.—Transfer. (The Surveyors are requested not to write on or below the space for Committee's Minute.)