

Rpt. 13.

No. 76051

REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

TUE. 7 NOV. 1922

Date of writing Report 28/10/1922 When handed in at Local Office 3/11/1922 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle Date, First Survey 1st March/22 Last Survey 3rd October 1922

Reg. Book. 55290 on the "S. S. British Sergeant" (Number of Visits 10)

Built at Newcastle By whom built Palmers S & Co Ltd Yard No. 931 When built 1922

Owners British Tanker Co Ltd Port belonging to London

Electric Light Installation fitted by Palmers S & Co Ltd. Contract No. 931 When fitted 1922

System of Distribution Double wire distribution system

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 steam set
are they over compounded 5 per cent. Yes steam set only, if not compound wound state distance between each generator Shunt wound motor generator

Where more than one generator is fitted are they arranged to run in parallel Yes lighting Yes power, 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 Engine room on dynamo flat

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 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 Engine room on dynamo flat after end

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 Yes, 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 fitted

with blow out coils + 3 pole switches on AC generator, double pole change over switch & fuses on D.C. generator
for lighting, 3 pole switch & fuses on each outgoing power circuit + 3 pole switch & fuses on each lead for lighting

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

Earth Testing, state what means are provided at the main switchboard for indicating the state of the insulation of the system earth lamps through

double pole fuses to earth

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 Iron clad boxes with

switches & fuses for lighting "Lad" fuses fitted, Iron clad boxes with 3-pole switches & fuses for power

Insulation of Cables, state type of cables, single or twin ^{single} ~~3-core~~ are the cables insulated and protected as per Tables III or IV of the Rules *yes*

Fall of Pressure, state maximum between bus bars and any point of the installation under maximum load *6 volts on lighting circuits*

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 *sealed in trifurcating boxes*

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*

Support and Protection of Cables, state how the cables are supported and protected *on special plating in engine room*

Lighting cables run in channel *has troughing filled with compound along gangway*

If cables are run in wood casings, are the casings and caps secured by screws *—*, are the cap screws of brass *—*, are the cables run in separate grooves *—*. 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 *—*

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 *lead*

Earthing Connections, state what earthing connections are fitted and their respective sectional areas *—*

—, are their connections made as per Rule *—*

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 *steam driven dynamo*

coupled through O.P. change over switch & fuses to main lighting board

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 *yes*

fitted with glass shades & heavy guards

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 entrance*

protected by strong glass bowl only to be opened from outside, operated by O.P. switches

in galvanised iron pipe wholly outside

where are the controlling switches situated *double pole switches fitted in accommodation passage*

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

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

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 fore and aft *yes except steering motor*

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 *—*, 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*

Lighting 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*

If portable lamps for use in dangerous spaces are supplied, are they of a type approved by the Home Office *yes*

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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 GENERATOR...	2	120 KVA	220	1000	1000	Rattan-Johns 7500 R.P.M.		
EMERGENCY GENERATOR...	1	10	110	91	1440	Induction motor 2200 R.P.M.		
ROTARY TRANSFORMER...	1	1 1/2	135-180	11-11-8-3	1500/1500	single cylinder steam engine		

LIGHTING AND HEATING CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Conductors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
MAIN GENERATOR...		3	.3024	37	.103	315	80	paper	lead covered and braided
EMERGENCY GENERATOR...		2	.1478	37	.072	91	21	rubber	do
ROTARY TRANSFORMER...		2	.1478	37	.072	91	21	do	do
AUXILIARY SWITCHBOARDS...									
ENGINE ROOM...		2	.01046	7	.044	16.51	108	do	do
BOILER ROOM...		2	.01046	7	.044	5.81	120	do	do
After Accommodation		2	.02214	7	.064	25.36	162	do	do
Accommodation		2	.1478	37	.072	58.84	664	do	do
WIRELESS...		2	.02214	7	.064	13.6	690	do	do
SEARCHLIGHT...									
MASTHEAD LIGHT...		2	.00194	3	.029	1.02	360	do	do
SIDE LIGHTS...		2	.00194	3	.029	4.08	240	do	do
COMPASS LIGHTS...		2	.00194	3	.029	.28	20	do	do
STERN LIGHTS...		2	.00194	3	.029	1.02	678	do	do
CARGO LIGHTS...		2	.003	70	.076	3	81	do	braided and covered specially armoured
ARC LAMPS...									
HEATERS...									

MOTOR CONDUCTORS.

Ref. No.	DESCRIPTION.	No. of Motors.	Effective Area of each Conductor. Sq. Ins.	COMPOSITION OF STRAND.		Total Maximum Current. Amperes.	Approximate Length. (Lead and Return.) Feet.	Insulated with	HOW PROTECTED.
				No.	Diameter.				
BALLAST PUMP...									
MAIN BILGE LINE PUMPS...									
GENERAL SERVICE PUMP...									
EMERGENCY BILGE PUMP...									
SANITARY PUMP...									
CIRC. SEA WATER PUMPS...		2	.1004	19	.083	123	15	paper	lead covered, & braided
CIRC. FRESH WATER PUMPS...									
AIR COMPRESSOR...									
FRESH WATER PUMP...									
ENGINE TURNING GEAR...									
ENGINE REVERSING GEAR...									
LUBRICATING OIL PUMPS...									
OIL FUEL TRANSFER PUMP...									
WINDLASS...									
WINCHES, FORWARD...									
WINCHES, AFT...									
STEERING GEAR...		1	.02214	7	.064	50	25	do	do
WORKSHOP MOTOR...									
VENTILATING FANS...									
Exhaust system		1	.00701	7	.036	6.6	66	rubber	do
Oil pump motor		1	.01046	7	.044	10	120	rubber	do
Refrigerator motor		1	.00701	7	.036	26	22	paper	do
Red pump motor		1	.02214	7	.064	50	112	do	do
Food draught fan		2	.1004	19	.083	69	136	do	do
Motor generator			.02214	7	.064	60	60	do	do



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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.

Palmer's Shipbuilding & Iron Co. Electrical Engineers.
Colmactoness & Co. Manager

Date 31.10.22

COMPASSES.

Distance between electric generators or motors and standard compass 224 feet

Distance between electric generators or motors and steering compass 19 feet.

The nearest cables to the compasses are as follows:—

A cable carrying .28 Amperes on the ~~from~~ standard compass 7 feet from steering compass.

A cable carrying .28 Amperes 7 feet from standard compass on the ~~from~~ steering compass.

A cable carrying Amperes 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 all course in the case of the standard compass, and nil degrees on all course in the case of the steering compass.

Palmer's Shipbuilding & Iron Co., Ltd.

Alfred King
Builder's Signature.

Date 31-10-22

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

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

The above installation is in accordance with the Society's rules. The vessel is eligible in my opinion for notation elec light, wireless.

It is submitted that
this vessel is eligible for
THE RECORD

elec. Light.

A.H.D.

8/11/22

Total Capacity of Generators 202 Kilowatts

The amount of Fee ... £ 36 : 11 : 9/10/22

Travelling Expenses (if any) £ : : 23/10/22

Committee's Minute

Assigned

W.T. Badger

Surveyor to Lloyd's Register of Shipping.

1m 3.22—Transfer.
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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