

Rpt. 13.

No. 76277

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Received at London Office

WED 10 JAN 1923

Date of writing Report

29/12/22

When handed in at Local Office

8/1/23

10 23

Port of

NEWCASTLE-ON-TYNE

No. in

Survey held at

Newcastle

Date, First Survey

28 Aug

Last Survey

13 Dec 1922

Reg. Book.

55286 on the

S.S. British Premier

(Number of Visits 11)

Tons

Gross 6046

Net 3517

Built at

Newcastle-on-Tyne

By whom built

Palmer &amp; Sons

Yard No.

925

When built

1922

Owners

The British Tanker Co Ltd

Port belonging to

London

Electric Light Installation fitted by

Palmer &amp; Sons Ltd

Contract No.

925

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, motor gen

are they over compounded 5 per cent.

yes steam set only

if not compound wound state distance between each generator

Where more than one generator is fitted are they arranged to run in parallel

power yes, lighting no

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

in 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

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

in engine room on dynamo flat aft 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

accessibility of all parts

yes

absence of fuses on back of board

yes

proportion of omnibus

bars

yes

individual fuses to ammeter, 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 switch on AC generator, double pole change-over switch + fuses on DC generators for lighting, 3 pole switch + fuses on each outgoing circuit for power + 2 pole switches + fuses on each outgoing circuit for lighting

Instruments on main switchboard

4 AC + 1 DC

ammeters 2 AC + 1 DC

voltmeters

one

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

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 + iron clad boxes with 3 pole switches + fuses for power, 2 pole fuses fitted for lighting

W351 - 0043

1/2

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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 *5 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 box troughing filled in with compound along fore-cast gangway*

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 *lead*

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

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 *steam driven dynamo coupled through double pole change over switch to main switchboard*

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 metal 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 stout glass bowl only to be opened from outside & operated by double pole switches*

in galvanised iron pipe wholly outside *Yes*, how are the cables led *Yes*

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

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 fore and aft *Yes except steering gear*

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*

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 *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*

## 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		1000	Ream Impulse Turbo 7500 RPM		
MAIN	1	10	110	91		Induction motor 220 vch		
EMERGENCY	1	10	110	91	340	single cylinder steam engine		
ROTARY TRANSFORMER	1	1 1/2	135-180	111-9.3	1500/1800	DC motor 110 volts		

## 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	31	.103	315	80	Paper	Lead coat, arm & shielded
	MAIN GENERATOR	2	.1478	37	.072	91	21	Rubber	do
	EMERGENCY GENERATOR	2	.1478	37	.072	91	21	do	do
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS...								
	ENGINE ROOM	2	.01046	7	.064	15.98	108	do	do
	BOILER ROOM	2	.01046	7	.064	5.44	118	do	do
	After accommodation	2	.02214	7	.064	29.93	162	do	do
	Accommodation for navigation	2	.1478	37	.072	57.93	654	do	do
	WIRELESS	2	.02214	7	.064	13.6	690	do	do
	SEARCHLIGHT								
	MASTHEAD LIGHT	2	.00194	3	.029	102	360	do	do
	SIDE LIGHTS	2	.00194	3	.029	4.28	90	do	do
	COMPASS LIGHTS	2	.00194	3	.029	28	20	do	do
	STERN LIGHTS	2	.00194	3	.029	102	678	do	do
	CARGO LIGHTS	2	.003	70	.0076	3	81	do	do
	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	125	90	Paper	Lead coat, arm & shielded
	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	85	do	do
	WORKSHOP MOTOR								
	VENTILATING FANS								
	Camshaft system	1	.00701	7	.036	6.6	66	Rubber	do
	Oil purifier motor	1	.01046	7	.064	10	120	do	do
	Refrigerator	1	.00701	7	.036	26	20	Paper	do
	Feed pump	1	.02214	7	.064	50	98	do	do
	Forced draught fan	1	.02214	7	.064	69	138	do	do
	do	1	.02214	7	.064	69	138	do	do
	Motor generator	1	.02214	7	.064	40	64	do	do

W357-0043



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., Ltd.*

*G. Mallinson*

Electrical Engineers.

Date *Jan 5 1923*

*Electrical Engineer*

#### 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* *7* feet from standard compass *7* feet from steering compass.

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

A cable carrying *28* Amperes *7* feet from standard compass *7* 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.*

*W. S. Simpson*

Builder's Signature.

Date *5/1/23*

*SHIPYARD MANAGER*

Is this installation a duplicate of a previous case *yes* If so, state name of vessel *British Officer*

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

*The above installation is in accordance with the Society's Rules.  
This vessel is eligible in my opinion for notation as light,  
wireless.*

**It is submitted that  
this vessel is eligible for  
THE RECORD.**

*Elec. Light*

*A.H.D.*

*26/1/23*

Total Capacity of Generators *202* Kilowatts

The amount of Fee ... £ *36* : *11* : *18/12/22*  
Travelling Expenses (if any) £ : : *5/1/23*

*W. T. Badger*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

1m. § 22.—Transfer.  
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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