

Rpt. 13.

No. 81426

# REPORT ON ELECTRIC FITTINGS.

(OTHER THAN FOR THE PROPULSION OF THE VESSEL)

Date of writing Report

19

When handed in at Local Office

7/6/27 Port of

NEWCASTLE ON TYNE

5 JUN 1927

No. in Survey held at Newcastle.

Date, First Survey 11 May 1927 Last Survey 25 May 1927

Reg. Book. Supp.

(Number of Visits.....4.....)

88233. on the "British Industry"

Tons { Gross 4500  
Net 2370

Built at Newcastle.

By whom built Palmers S &amp; D Co. Ltd.

Yard No. 963

When built 1927.

Owners British Tanker Co. Ltd.

Port belonging to

London

Electric Light Installation fitted by Palmers S &amp; D Co. Ltd.

Contract No. 963 When fitted 1927.

**System of Distribution**

Double wire system ✓

**Pressure of supply for Lighting**

110

volts, Heating

volts, Power

volts.

**Direct or Alternating Current, Lighting**

Direct ✓

Power

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 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

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**

Engine room aft end on dynamo 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 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 aft end on dynamo 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, 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

Double pole switch + D.P. fuses on dynamo mains + on each outgoing circuit.

**Instruments on main switchboard**

one

ammeters

one

volts

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

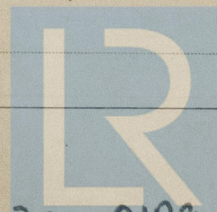
earth lamps coupled to earth through switches &amp; fuses.

**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.



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Insulation of Cables, state type of cables, *single* 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 *4.5 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

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 *Main cables in pipe along fore and aft gangway. Lead covered & braided cables clipped to bulkheads in cabins*

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 *none fitted*

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*

*Special gas tight pump room fittings*, how are the cables led

where are the controlling switches situated *at distribution box*

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

Are 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 —, are the coils self-contained and readily removable for replacement —

are the brushes, brush holders, terminals and lubricating arrangements as per Rule —, are the motors placed in well-ventilated compartments in which inflammable gases cannot accumulate and clear of all inflammable material —

are they protected from mechanical injury and damage from water, steam or oil —, are their axis of rotation fore and aft —

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 —

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	10	110	90.9	340	Steam engine.		
AUXILIARY								
EMERGENCY								
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...	2	.01592	19	.072	90.9	50	V. I. R.	Lead covered & braided
	AUXILIARY GENERATOR								
	EMERGENCY GENERATOR								
	ROTARY TRANSFORMER...								
	AUXILIARY SWITCHBOARDS								
	ENGINE ROOM								
	BOILER ROOM	2	.02214	7	.064	16.46	70	50	Lead covered & arm'd
	Midship acc <sup>h</sup>	2	.1168	37	.064	50.0	340	50	50
	Aft acc <sup>h</sup>	2	.02214	7	.064	23.15	240	50	50
	WIRELESS	2	.02214	7	.064	4.5	630	50	50
	SEARCHLIGHT	2	.00194	3	.029	.9	516	50	50
	MASTHEAD LIGHT	2	.00194	3	.029	.9	394	50	50
	SIDE LIGHTS	2	.00194	3	.029	.9	108	50	Lead covered
	COMPASS LIGHTS	2	.00194	3	.029	.25	20	50	50
	GEN. LIGHTS	2	.00299	3	.036	.9	750	50	Lead covered & arm'd
	CARGO LIGHTS	2	.003	70	.0076	3.0	81	50	spirally arm'd & braided
	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. (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								
	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								
	WORKSHOP MOTOR								
	VENTILATING FANS								



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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.

W. Pomeroy

Electrical Engineers.

Date 3/6/27

#### COMPASSES.

Distance between electric generators or motors and standard compass 256 feet

Distance between electric generators or motors and steering compass 266 feet.

The nearest cables to the compasses are as follows:—

A cable carrying .25 Ampères on the feet from standard compass 10 feet from steering compass.

A cable carrying .25 Ampères 10 feet from standard compass on the feet from steering compass.

A cable carrying 15.0 Ampères 10 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 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.

Palmers Shipbuilding & Iron Co., Ltd.

Ab Jenkins

Builder's Signature.

Date 3/6/27.

Witness

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 above installation is in accordance with the Rules of this Society  
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.

W.D.  
10/6/27

Total Capacity of Generators 20 Kilowatts

The amount of Fee ... £ 17 : 10 : When applied for, 8/6/1927

Travelling Expenses (if any) £ : : When received, 21/6/1927

W.T. Badger.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

Elec. Lt.



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