

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 65782

Port of Newcastle-on-Tyne Date of First Survey 2nd Feby Date of Last Survey 13th Mar. 1914 No. of Visits 8
 No. in Reg. Book on the Iron or Steel "S. J. San Yeferino" Port belonging to London
 Built at Jarrow By whom Palmer's Shipbuilding and Iron Co. Ltd When built 1914
 Owners Eagle Oil Transport Co. Ltd Owners' Address London
 Yard No. 831 Electric Light Installation fitted by Siemens Bros. Dynamal Works Ltd When fitted 1914

DESCRIPTION OF DYNAMO, ENGINE, ETC.

1 Siemens multipolar compound wound dynamo coupled direct to a Shank's single cylinder vertical engine of the open type.

Capacity of Dynamo 138.5 Amperes at 65 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed In main engine room Whether single or double wire system is used Double

Position of Main Switch Board In main engine room having switches to groups 2 to 4 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each

None fitted.

If fuses are fitted on main switch board to the cables of main circuit Yes and on each auxiliary switch board to the cables of auxiliary circuits — and at each position where a cable is branched or reduced in size Yes and to each lamp circuit Yes

If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes

Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 100 per cent over the normal current

Are all fuses fitted in easily accessible positions Yes Are the fuses of standard dimensions Yes If wire fuses are used are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit Yes

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes.

Total number of lights provided for 146 arranged in the following groups:—

A	23	lights each of	19 of 16 cp & 4 of 32	candle power requiring a total current of	17.1	Amperes
B	23	lights each of	16	candle power requiring a total current of	11.5	Amperes
C	39	lights each of	16	candle power requiring a total current of	29.1	Amperes
D	27	lights each of	16	candle power requiring a total current of	17.5	Amperes
E	34	lights each of	16	candle power requiring a total current of	17.0	Amperes
F	Wireless				30.0	Amperes
	2	Mast head light with	1 lamp each of	32	candle power requiring a total current of	4
	2	Side light with	1 lamp each of	32	candle power requiring a total current of	4
	3	Cargo lights of	6 x 16	candle power, whether incandescent or arc lights		Incandescent.

If arc lights, what protection is provided against fire, sparks, &c.

Where are the switches controlling the masthead and side lights placed In Wheel House

DESCRIPTION OF CABLES.

Main cable carrying 138.5 Amperes, comprised of 37 wires, each 14 S.W.G. diameter, .182 square inches total sectional area

Branch cables carrying 29.1 Amperes, comprised of 7 wires, each 14 S.W.G. diameter, .035 square inches total sectional area

Branch cables carrying 17.1 Amperes, comprised of 7 wires, each 17 S.W.G. diameter, .017 square inches total sectional area

Leads to lamps carrying 3 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area

Cargo light cables carrying 3 Amperes, comprised of 136 wires, each 40 S.W.G. diameter, .002463 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors of high conductivity tinned copper wires insulated with pure and vulcanised india-rubber taped and lead covered; where necessary as before and armoured with galvanised iron wires

Joints in cables, how made, insulated, and protected

Jointless system with extension boxes.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances — Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage —

Are there any joints in or branches from the cable leading from dynamo to main switch board No

How are the cables led through the ship, and how protected Clipped direct to bulkheads etc. with brass or iron clips. Protection as above.



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible yes

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Lead covered and Armoured

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covered and armoured

What special protection has been provided for the cables near boiler casings Lead covered and armoured

What special protection has been provided for the cables in engine room Lead covered and armoured

How are cables carried through beams In fibre bushed slots through bulkheads, &c. In watertight glands

How are cables carried through decks In watertight decketubes

Are any cables run through coal bunkers yes or cargo spaces yes or spaces which may be used for carrying cargo, stores, or baggage —

If so, how are they protected Lead covered and armoured in heavy wood casing

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage no

If so, how are the lamp fittings and cable terminals specially protected —

Where are the main switches and fuses for these lights fitted —

If in the spaces, how are they specially protected —

Are any switches or fuses fitted in bunkers no

Cargo light cables, whether portable or permanently fixed Portable How fixed —

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel —

How are the returns from the lamps connected to the hull —

Are all the joints with the hull in accessible positions —

Is the installation supplied with a voltmeter yes, and with an amperemeter yes, fixed on Switchboard

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas yes

Are any switches, fuses, or joints of cables fitted in the pump room or companion no

How are the lamps specially protected in places liable to the accumulation of vapour or gas enclosed fittings with wiring in tubes

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 1200 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

STEMS BROTHERS DYNAMO WORKS LIMITED.

MARINE DEPARTMENT.

Electrical Engineers

Date 24 April 1914

COMPASSES.

Distance between dynamo or electric motors and standard compass 200 feet

Distance between dynamo or electric motors and steering compass 200 feet

The nearest cables to the compasses are as follows:—

A cable carrying <u>29.1</u> Amperes <u>28</u> feet from standard compass <u>20</u> feet from steering compass
A cable carrying <u>.6</u> Amperes <u>in</u> feet from standard compass <u>in</u> feet 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

The maximum deviation due to electric currents, etc., 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.

Builder's Signature. Date 30th April 1914

GENERAL REMARKS. The above installation has been fitted in a satisfactory manner & in accordance with the Rules.

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

J.W.D. 6/5/14 Thomas Field
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

