

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 27894

Port of SUNDERLAND Date of First Survey 15.7.20 Date of Last Survey 29.7.20 No. of Visits 3
 No. in Reg. Book on the Iron or Steel "KINCARDINE" Port belonging to
 Built at SUNDERLAND By whom W^M DOXFORD & SONS LTD When built 1920
 Owners Owners' Address
 Yard No. 519 Electric Light Installation fitted by MESSRS SUNDERLAND FORGE & ENGRS LTD fitted 1920

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One combined plant consisting of single cylinder, vertical, inverted open type engine 350 R.P.M. 100 lbs steam coupled to compound wound multipolar dynamo.

Capacity of Dynamo 80 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Engine Room, Port Side, Forward Side Whether single or double wire system is used double
 Position of Main Switch Board close to dynamo having switches to groups five of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each in Chart Room with seven switches controlling Foremast, Main Mast, Port, Starboard, Stern, Compasses & Telegraphs.

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 Yes 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 No 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 116 at 16 1/2 arranged in the following groups:—

A Saloon, having cargo lights each of	<u>16</u>	candle power requiring a total current of	<u>22.40</u>	Amperes
B Forward cargo lights each of	<u>16</u>	candle power requiring a total current of	<u>15.12</u>	Amperes
C Engineers & Cargo lights each of	<u>16</u>	candle power requiring a total current of	<u>17.36</u>	Amperes
D Engine & Boiler lights each of	<u>16</u>	candle power requiring a total current of	<u>10.58</u>	Amperes
E Wireless lights each of	<u>—</u>	candle power requiring a total current of	<u>—</u>	Amperes
2 Mast head light with 2 lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.24</u>	Amperes
2 Side light with 2 lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.24</u>	Amperes
5 Cargo lights of	<u>6 - 16</u>	candle power, whether incandescent or arc lights	<u>incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c. None fitted

Where are the switches controlling the masthead and side lights placed in Chart Room.

DESCRIPTION OF CABLES.

Main cable carrying 80 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area
 Branch cables carrying 22.4 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area
 Branch cables carrying 10.08 Amperes, comprised of 7 wires, each 21 1/2 S.W.G. diameter, .0049 square inches total sectional area
 Leads to lamps carrying .56 Amperes, comprised of 7 wires, each 25 S.W.G. diameter, .0022 square inches total sectional area
 Cargo light cables carrying 2.5 Amperes, comprised of 7 wires, each 25 S.W.G. diameter, .0022 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Main Pure & Nite E.P. Tapes, Vulcanized then Armoured & Braided.
 Deck " " " " " Lead covered
 Machinery Spaces " " " " " Armoured & Braided.
 Joints in cables, how made, insulated, and protected None made.

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 None made
 How are the cables led through the ship, and how protected Armoured & Braided cable clipped to underside of Deck.



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 Armoured & Braided
or V.L.B. run in Iron Pipe

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Armoured & Braided

What special protection has been provided for the cables near boiler casings - do - - do -

What special protection has been provided for the cables in engine room

How are cables carried through beams Aides pushed with fibre through bulkheads, &c. W/T. Glands

How are cables carried through decks W/T. Deck Tubes

Are any cables run through coal bunkers no or cargo spaces Yes or spaces which may be used for carrying cargo, stores, or baggage Yes

If so, how are they protected Armoured & Braided cable

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 None fitted

Where are the main switches and fuses for these lights fitted - do - - do -

If in the spaces, how are they specially protected - do - - do -

Are any switches or fuses fitted in bunkers - do - - do -

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

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 Main S. board

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

Are any switches, fuses, or joints of cables fitted in the pump room or companion

How are the lamps specially protected in places liable to the accumulation of vapour or gas

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 600 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.

W. PROTHE SUNDERLAND FORGE & ENGINEERING CO., LTD.

Electrical Engineers

Date

COMPASSES.

My Man Director

Distance between dynamo or electric motors and standard compass

Distance between dynamo or electric motors and steering compass 120 feet

The nearest cables to the compasses are as follows:—

A cable carrying	<u>10.9</u>	Amperes	<u>-</u>	feet from standard compass	<u>7</u>	feet from steering compass
A cable carrying	<u>.56</u>	Amperes	<u>-</u>	feet from standard compass	<u>led into</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 any course in the case of the standard compass and nil degrees on any course in the case of the steering compass.

Wm **WILLIAM DOXFORD & SONS**

Builder's Signature.

Date

8/9/20

GENERAL REMARKS.

This installation has been fitted in a satisfactory manner and in accordance with the rules

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

Elec Lt
Retn 16/9/20

W. H. H. H.

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



Im. 1.1.18—Transfer.