

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 27888

Port of Hull. Date of First Survey Aug 7th Date of Last Survey Aug 25/14 No. of Visits 6
 No. in on the Iron or Steel S.S.K. "RELONZO" Port belonging to Grimsby
 Reg. Book Sup 6 Built at Beverly By whom Book Wotton, Grimsby When built 1914
 Owners G. F. Sleight Owners' Address
 Yard No. Electric Light Installation fitted by Siemens Bros. Dynamometer When fitted 1914

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Siemens compound wound dynamo, 30 amps, 100 volts
direct coupled to Robey open type engine 380 R.P.M.

Capacity of Dynamo 30 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Engine room Whether single or double wire system is used double

Position of Main Switch Board Engine room having switches to groups a to c 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 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 50 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 46 arranged in the following groups:—

A 8 lights each of 16 candle power requiring a total current of 4.8 Amperes

B 12 lights each of 16 candle power requiring a total current of 18.6 Amperes

C 16 lights each of 16 candle power requiring a total current of 9.0 Amperes

D ✓ lights each of ✓ candle power requiring a total current of ✓ Amperes

E ✓ lights each of ✓ candle power requiring a total current of ✓ Amperes

3 Mast head light with 1 lamp each of 32 candle power requiring a total current of 3.6 Amperes

2 Side light with 1 lamp each of 32 candle power requiring a total current of 1.2 Amperes

1 Cargo lights of 5 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 Wheel house

DESCRIPTION OF CABLES.

Main cable carrying 28.8 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area

Branch cables carrying 15.6 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area

Branch cables carrying 4.8 Amperes, comprised of 3 wires, each 18 S.W.G. diameter, .0053 square inches total sectional area

Leads to lamps carrying 2.4 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .00181 square inches total sectional area

Cargo light cables carrying 3 Amperes, comprised of 70 wires, each 40 S.W.G. diameter, .001257 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors of high conductivity tinned copper wires
insulated with pure and vulcanized india rubber.
Where necessary lead covered and armoured.

Joints in cables, how made, insulated, and protected

Jointless system.

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 Engine & Boiler rooms etc. armoured.

Holds etc. in steel tubes accommodation lead covered only.



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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 Steel tubes.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Armoured lead covered.

What special protection has been provided for the cables near boiler casings Steel tubes.

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

How are cables carried through beams Bushed holes. through bulkheads, &c. In tubes.

How are cables carried through decks N. I. deck tubes.

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

If so, how are they protected Steel tubes.

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 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

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.

C. A. Kennedy

Electrical Engineers

Date 21st Sept. 1914

COMPASSES.

Distance between dynamo or electric motors and standard compass about 35 feet.

Distance between dynamo or electric motors and steering compass " " "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>15.6</u>	Amperes	<u>about 8.</u>	feet from standard compass	<u>7.</u>	feet from steering compass
A cable carrying	<u>✓</u>	Amperes	<u>✓</u>	feet from standard compass	<u>✓</u>	feet from steering compass
A cable carrying	<u>✓</u>	Amperes	<u>✓</u>	feet from standard compass	<u>✓</u>	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power ✓

The maximum deviation due to electric currents, etc., was found to be ✓ degrees on ✓ course in the case of the standard compass and ✓ degrees on ✓ course in the case of the steering compass.

FOR COOK, WELTON & BENNELL, LTD

Builder's Signature. Date Sept. 23rd 1914

GENERAL REMARKS.

This installation of electric light has been well fitted. The materials & workmanship are good. It has been tried under full working conditions & found satisfactory.

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

J. G. Mackillop
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.