

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 14595

Port of Leith Date of First Survey 3rd August Date of Last Survey 28th August 1914 No. of Visits 5
 No. in Reg. Book on the Iron or Steel No. Chakdara Port belonging to Glasgow
 Built at Leith By whom Ramage & Ferguson, Ltd. When built 1914
 Owners British India Steam Navigation Co. Ltd. Owners' Address Glasgow
 Yard No. 233 Electric Light Installation fitted by Siemens Bros. & Co. Ltd. When fitted 1914

DESCRIPTION OF DYNAMO, ENGINE, ETC.

1. Siemens multipole Dynamo direct coupled to shafts vertical open compound engine 8' x 12' x 8'
 1. Siemens ditto " " " vertical open single cylinder engine 4' 6" x 4'

Capacity of Dynamo 240 & 50 Amperes at 100 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 A to E of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 2 of 2 switches & 1 of 3 switches on independent aft on Engine casing & 1 of 3 switches in Engine room.

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 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 304 arranged in the following groups:—

A 54 lights each of 49-16¹/₂ & 5-32 candle power requiring a total current of 37 Amperes

B 18-12" & 7-40" fuses & 102 lights each of 16 candle power requiring a total current of 71 Amperes

C 200 & 110 lights each of " candle power requiring a total current of 76 Amperes

D 38 lights each of 37-16¹/₂ & 1-32 candle power requiring a total current of 24.7 Amperes

E Wireless lights each of — candle power requiring a total current of 25 Amperes

2 Mast head light with 1 lamps each of 32 candle power requiring a total current of 2.4 Amperes

2 Side light with 1 lamps each of " candle power requiring a total current of 2.4 Amperes

3 Cargo lights of 8-16 candle power, whether incandescent or arc lights incandescent

If arc lights, what protection is provided against fire, sparks, &c. enclosed in glazed lanterns

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

DESCRIPTION OF CABLES.

Main cable carrying 240 Amperes, comprised of 37 wires, each 12 S.W.G. diameter, .30 square inches total sectional area

Branch cables carrying 50 Amperes, comprised of 19 wires, each 18 S.W.G. diameter, .034 square inches total sectional area

Branch cables carrying 76 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area

Branch cables carrying 24 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area

Leads to lamps carrying .64 Amperes, comprised of 7 wires, each 23 S.W.G. diameter, .0031 square inches total sectional area

Cargo light cables carrying 4.8 Amperes, comprised of 7 wires, each 23 S.W.G. diameter, .0031 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors of high conductivity drawn copper insulated with pure and vulcanized india rubber, taped braided, and compounded, also as before but taped and lead covered, or lead covered and armoured with galvanized steel wires and braided over armour.

Joints in cables, how made, insulated, and protected

Jointless system with end union 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 In fine casings, or clipped to decks or bulkheads with brass or galvanized iron clips and brass screws.

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 & armoured

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

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

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

How are cables carried through beams in Fibre bushes through bulkheads, &c. in special glands

How are cables carried through decks in special ducts

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

If so, how are they protected Lead covered & armoured

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

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 2 voltmeter, and with 2 amperemeter, fixed on Main 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 1250 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.

COMPASSES:

Distance between dynamo or electric motors and standard compass over 100 feet

Distance between dynamo or electric motors and steering compass over 100 feet

The nearest cables to the compasses are as follows:—

A cable carrying 10.2 Amperes about 10 feet from standard compass about 16 feet from steering compass

A cable carrying .6 Amperes in feet from standard compass in 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 _____ course in the case of the

standard compass and Nil degrees on _____ course in the case of the steering compass.

GENERAL REMARKS.

This installation appears to have been fitted in a satisfactory manner and in accordance with the rules.

It is submitted that this vessel is eligible for

THE RECORD. Elec. light.

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.