

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. ~~16681~~ 12335

Port of GREENOCK Date of First Survey 18/3/14 Date of Last Survey 16/5/14 No. of Visits 16
 No. in on the Iron or Steel ss "Rother" Port belonging to Boole
 Reg. Book Built at Port Glasgow By whom The Clyde Shipbdg. Eng. Co. When built 1914
 Owners Lancashire & Yorkshire Railway Co Owners' Address
 Yard No. 308 Electric Light Installation fitted by W. G. Martin & Co. When fitted 1914

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Single cylinder double acting steam engine direct coupled to compound wound multipolar dynamo with carbon brushes
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Starting Platform Whether single or double wire system is used double
 Position of Main Switch Board near dynamo having switches to groups A, B, C & D of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Forecastle 1-4, Saloon Entrance 1-8 and 1-3, Chart Room 1-5, Officers 1-4, Gunships 1-3, Engine Room 1-6 and 1-3 way.
 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
 Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of fifty 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 125 arranged in the following groups:—
 A 16 lights each of 16 candle power requiring a total current of 8.8 Amperes
 B 38.5 lights each of 8, 16 and 32 candle power requiring a total current of 21 Amperes
 C 22 lights each of 16 candle power requiring a total current of 12.1 Amperes
 D 48.5 lights each of 8, 16 and 32 candle power requiring a total current of 26.6 Amperes
 E — lights each of — candle power requiring a total current of — Amperes
 1 Mast head light with 1 lamps each of 32 candle power requiring a total current of 1.1 Amperes
 2 Side light with 1 lamps each of 32 candle power requiring a total current of 2.2 Amperes
 4 Cargo lights of 4 lights - 16 cp. candle power, whether incandescent or arc lights incandescent
 If arc lights, what protection is provided against fire, sparks, &c. No arc lamps

Where are the switches controlling the masthead and side lights placed In chart room on Bridge

DESCRIPTION OF CABLES.

Main cable carrying 68.5 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .0937 square inches total sectional area
 Branch cables carrying 21 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .0221 square inches total sectional area
 Branch cables carrying 12.1 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, .007 square inches total sectional area
 Leads to lamps carrying 3 Amperes, comprised of 1 wires, each 16 S.W.G. diameter, .0032 square inches total sectional area
 Cargo light cables carrying 2.2 Amperes, comprised of 1 wires, each 16 S.W.G. diameter, .0032 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

N. G. bopper wire turned insulated with pure & vulcanising rubber and tape. The whole vulcanised together braided & compounded in wood casing & steel armoured in engine room & holds.

Joints in cables, how made, insulated, and protected no joints, except on terminals.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances no joints 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 none

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 Room & Holds Armoured wire
In accommodation wood casing.

002330-002339-0009

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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible yes except when cargo in holds
 What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Metal tubes or armoured wire
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Steel armoured
 What special protection has been provided for the cables near boiler casings Steel armour
 What special protection has been provided for the cables in engine room Steel armour
 How are cables carried through beams bushes where unarmoured through bulkheads, &c. Watertight Glands
 How are cables carried through decks Metal tubes fitted watertight to deck
 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 Steel 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 no
 Cargo light cables, whether portable or permanently fixed portable How fixed insulated lugs
 In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel double wired
 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 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 2000 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.C. Martin & Co

Electrical Engineers

Date 27th May 1914

COMPASSES.

Distance between dynamo or electric motors and standard compass 70 ft.
 Distance between dynamo or electric motors and steering compass 60 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
5.5	10	6	
1.1	8	7	
1.1	8	7	

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 a certain course in the case of the standard compass and nil degrees on the same course in the case of the steering compass.

John Brown
Director

Builder's Signature.

Date 2nd June 1914

GENERAL REMARKS.

The materials and workmanship are good. The installation was tested and found to work well.

Wm. R. Austin

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

Committee's Minute

GLASGOW 9 - JUN. 1914

Elec. Light

Chd



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