

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 16504

Port of Greenock Date of First Survey 1st May 1911 Date of Last Survey 25th June No. of Visits 10
 No. in Reg. Book on the Iron or Steel T. D. D. "Kellore" Port belonging to Greenock
 Built at Greenock By whom Messrs Caird & Co When built 1913
 Owners OPCO Steam Navigation Coy. Owners' Address London
 Yard No. Electric Light Installation fitted by Siemens Bros Dynamo Works Ltd When fitted 1913

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 Siemens 6 pole compound wound dynamos each coupled direct to a Brotherhood vertical enclosed compound engine. 6½" and 9" x 6

Capacity of Dynamo 219 Amperes at 105 Volts, whether continuous or alternating current Continuous

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

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

Positions of auxiliary switch boards and numbers of switches on each 1 Switch alongside main switchboard for Marconi (H)

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 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 434 arranged in the following groups:—

A — 77	lights each of	16	candle power requiring a total current of	A — 46.2	Amperes
B — 70	lights each of	"	candle power requiring a total current of	B — 42.0	Amperes
C — 103	lights each of	"	candle power requiring a total current of	C — 61.8	Amperes
D — 48	lights each of	"	candle power requiring a total current of	D — 28.8	Amperes
E — 48	lights each of	"	candle power requiring a total current of	E — 28.8	Amperes
F — 88	lights each of	"	candle power requiring a total current of	F — 52.8	Amperes
G — 66 Fans	lights each of	"	candle power requiring a total current of	G — 42.1	Amperes
H — Marconi	lights each of	"	candle power requiring a total current of	H — 30.0	Amperes
2 Mast head lights with 1 lamp each, of	16	candle power requiring a total current of	1.2	Amperes	
2 Side lights with 1 lamp each, of	16	candle power requiring a total current of	1.2	Amperes	
16 Cargo lights each 3x16		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 chart room

DESCRIPTION OF CABLES.

Main cable carrying	219	Amperes, comprised of	37	wires, each	13	S.W.G. diameter,	.25	square inches total sectional area
Branch cables carrying	61.8	Amperes, comprised of	19	wires, each	16	S.W.G. diameter,	.060	square inches total sectional area
Branch cables carrying	46.2	Amperes, comprised of	19	wires, each	17	S.W.G. diameter,	.046	square inches total sectional area
Leads to lamps carrying	.6	Amperes, comprised of	1	wires, each	18	S.W.G. diameter,	.0018	square inches total sectional area
Cargo light cables carrying	1.8	Amperes, comprised of	7	wires, each	20	S.W.G. diameter,	.0070	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Tinned copper conductors insulated with pure and vulcanised india-rubber, taped, braided and compounded, then laid in well seasoned pine or teak casing or in galvanised steel conduit.

Joints in cables, how made, insulated, and protected

Generally 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 laid in casing which is secured to decks or bulkheads or in galvanised steel conduit secured to decks or bulkheads. 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 Teak casing or galvanised steel conduit

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Galvanised steel conduit

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

What special protection has been provided for the cables in engine room Galvanised steel conduit and teak casing

How are cables carried through beams In fibre plugs through bulkheads, &c. In special glands

How are cables carried through decks In special watertight deck tubes

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

If so, how are they protected —

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 By gunmetal shoe bolted to ship's hull

How are the returns from the lamps connected to the hull By 3/8" brass Whitworth screw and washers

Are all the joints with the hull in accessible positions Yes

Is the installation supplied with a voltmeter Yes, and with 2 amperemeters Yes, 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 2,000 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	Amperes	feet from standard compass	feet from steering compass
7	15	12	12
6	in	in	in
—	—	—	—

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

FOR CAIRD AND COMPANY LIMITED.

Builder's Signature.

Date

17th July 1913

GENERAL REMARKS.

The materials and workmanship are good, on completion the installation was tested and worked satisfactorily

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

GLASGOW 23 JUL 1913

Elec light



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.