

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 12 839

Port of Greenock Date of First Survey 31st May Date of Last Survey October 9th 1900 No. of Visits 11
 No. in on the Iron or Steel S.S. PERSIA Port belonging to GREENOCK
 Reg. Book 308 Built at GREENOCK By whom MESSRS CAIRD & CO When built 1900
 Owners P. & O. S.N.C. Owners' Address LEADENHALL STREET, LONDON
 Yard No. 295 Electric Light Installation fitted by MESSRS SIEMENS BROS & CO LTD When fitted 1900

DESCRIPTION OF DYNAMO, ENGINE, ETC.

3 TANGYE COMPOUND ENGINES 8x16x10" EACH COUPLED DIRECT TO A SIEMENS HB 15/20 COMPOUND WOUND DYNAMO

Capacity of Dynamo 220 Amperes at 105 Volts, whether continuous or alternating current CONTINUOUS

Where is Dynamo fixed ON BOTTOM PLATFORM OF MAIN ENGINE ROOM.

Position of Main Switch Board D^o. having switches to groups A TO K of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each ~~~~~

If cut outs 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits ~~~~~

Are the cut outs of non-oxidizable metal YES. and constructed to fuse at an excess of 100 per cent over the normal current

Are all cut outs 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 ~~~~~

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases YES.

Total number of lights provided for 876 arranged in the following groups:—

F	107				
A	95	lights each of	16	candle power requiring a total current of	64
G	90				57 Amperes
B	86	lights each of		candle power requiring a total current of	54
H	83				51 Amperes
C	80	lights each of		candle power requiring a total current of	49
I	75				48 Amperes
D	72	lights each of		candle power requiring a total current of	45
J	71				43 Amperes
E	60	lights each of		candle power requiring a total current of	42
K	57				36 Amperes
2 Mast head lights with	2 lamps each of			candle power requiring a total current of	34
					2 Amperes
2 Side light with	2 lamps each of			candle power requiring a total current of	2 Amperes
13 Cargo lights of	3 LIGHTS EACH			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.

3 Main cables carrying 220 Amperes, comprised of 37 wires, each 13 L.S.G. diameter, .2431 square inches total sectional area
 5 Branch cables carrying FROM 36 TO 49 Amperes, comprised of 19 wires, each 17 L.S.G. diameter, .04627 square inches total sectional area
 5 Branch cables carrying 43 TO 64 Amperes, comprised of 37 wires, each 18 L.S.G. diameter, .06696 square inches total sectional area
 Leads to lamps carrying 34 Amperes, comprised of 7 wires, each 14 L.S.G. diameter, .03483 square inches total sectional area
 Cargo light cables carrying 1.8 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .007052 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

→ GENERALLY JOINTLESS SYSTEM.

Joints in cables, how made, insulated, and protected INSULATED WITH PURE VULCANIZED RUBBER, TAPED, BRAIDED AND COATED WITH PRESERVATIVE COMPOUND.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux YES. 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 YES.

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 WELL SEASONED PINE AND TEAKWOOD CASINGS, ALSO IRON PIPES

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 **IRON PIPES.**

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat **TEAK CASINGS & IRON PIPES.**

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

What special protection has been provided for the cables in engine room **TEAK WOOD CASINGS & IRON PIPES.**

How are cables carried through beams **THROUGH HARD FIBRE TUBES** through bulkheads, &c. **IN SPECIALLY MADE GLANDS** WHEN BELOW WATERLINE

How are cables carried through decks **IN SPECIALLY CONSTRUCTED W.T. DECK PIPES.**

Are any cables run through coal bunkers **NO** or cargo spaces **NO** or spaces which may be used for carrying cargo, stores, or baggage **NOT AS FAR AS WE ARE AWARE**

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 cut outs for these lights fitted **~~~~~**

If in the spaces, how are they specially protected **~~~~~**

Are any switches or cut outs 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 **BY 3/8" BRASS WHITWORTH SCREWS** GUNMETAL SHOES OF AMPLE SIZE

How are the returns from the lamps connected to the hull **BY 3/8" BRASS WHITWORTH SCREWS**

Are all the joints with the hull in accessible positions **YES.**

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas

Are any switches, cut outs, 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 installation is **NOT** supplied with a voltmeter and **NOR** an amperemeter, fixed **~~~~~** Tachometers fitted.

The copper used is guaranteed to have a conductivity of **98** per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than **600** megohms per statute mile after 24 hours' immersion in seawater.

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.

FOR SIEMENS BROTHERS & CO. LIMITED.

McNair

Electrical Engineers

Date **Oct 29th 1900**

COMPASSES.

Distance between dynamo or electric motors and standard compass **ABOUT 260 FEET**

Distance between dynamo or electric motors and steering compass **" 250 "**

The nearest cables to the compasses are as follows:—

A cable carrying **ABOUT 34** Amperes **ABOUT 35** feet from standard compass **ABOUT 30** feet from steering compass

A cable carrying **" 50** Amperes **" 30** feet from standard compass **" 25** 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.

Builder's Signature. Date

GENERAL REMARKS.

The Electric Lighting installation is fitted in this vessel as herein described, and to my satisfaction.

C. A. McNair

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

Committee's Minute **Glasgow 5 - NOV. 1900**

Receives Electric Light

Amnd

It is submitted that this installation appears to meet the requirements of the Rules.