

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 24118

Port of Glasgow Date of First Survey 12 March Date of Last Survey 30 May/06 No. of Visits 7
 No. in Reg. Book 38 Sup. on the Iron or Steel Twin S. S. "Empress of Ireland" Port belonging to Liverpool
 Built at Glasgow By whom The Fairfield S & E. Co Ltd When built 1906
 Owners The Canadian Pacific Ry. Co. Owners' Address Montreal
 Yard No. 443 Electric Light Installation fitted by The Fairfield S & E Co Ltd When fitted 1906

DESCRIPTION OF DYNAMO, ENGINE, ETC.

3 Sets of Compound double acting, enclosed high speed type of engines & 1 set of single cylinder, enclosed high speed engine, all coupled to compound wound dynamo
 Capacity of Dynamo 3 at 750 & 1 at 180 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed hurst black room in Eng. Rm. Whether single or double wire system is used double
 Position of Main Switch Board After Eng. Rm. bulkhead having switches to groups 14 in number of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Upper Dynamo Room with 3 switches

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 Yes
 Are the cut outs of non-oxidizable metal Yes and constructed to fuse at an excess of 25 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 No
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 2029 arranged in the following groups :-

Group	Number of lights	Wattage per light	Wattage total	Current (Amperes)
A	2	16	32	2.4
B	4	16	64	4.8
C	8	16	128	9.6
D	12	16	192	14.4
E	14	52	728	56.0

2 Mast head light with 1 lamps each of 52 candle power requiring a total current of 2.4 Amperes
 2 Side light with 1 lamps each of 32 candle power requiring a total current of 2.4 Amperes
 8 Cargo lights of 4-50 CP @ - 200 candle power, whether incandescent or arc lights Incandescent

If arc lights, what protection is provided against fire, sparks, &c.

1-20 Search Light in Metal Case

Where are the switches controlling the masthead and side lights placed Wheel House

DESCRIPTION OF CABLES.

3 Main cable carrying 400 Amperes, comprised of 91 wires, each 12 L.S.G. diameter, .7942 square inches total sectional area
1 Branch cables carrying 150 Amperes, comprised of 37 wires, each 14 L.S.G. diameter, .1906 square inches total sectional area
 Branch cables carrying 1000 Amperes per sq. inch L.S.G. diameter, square inches total sectional area
 Leads to lamps carrying .6 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .00181 square inches total sectional area
 Cargo light cables carrying 7.5 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .0129 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulated with pure and vulcanized India Rubber, taped, and the whole vulcanized together. All main cables are protected with a covering of lead, and a covering of galvanized wire. The sub-mains are run in grooved wood casing.
 Joints in cables, how made, insulated, and protected None

Are all the joints of cables thoroughly soldered, resin only having been used as a flux None 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 No

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 All main cables are lead covered and armoured and clipped to decks and bulkheads, also in galleys and exposed places, all other wires and cables are run in grooved wood casing.



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 Ditto

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

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

How are cables carried through beams Fibre Tubes through bulkheads, &c. G.M. Glands

How are cables carried through decks Galvanized iron 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 Armoured and lead covered

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage Yes

If so, how are the lamp fittings and cable terminals specially protected All lamp fittings have cast iron shutters for closing

Where are the main switches and cut outs for these lights fitted On the deck above

If in the spaces, how are they specially protected None

Are any switches or cut outs 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 _____

The installation is Supplied with a Voltmeter and amperemeter for each machine, fitted to main
supplied with a voltmeter and an amperemeter, fixed switchboard.

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 copper used is guaranteed to have a conductivity of 99 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 1000 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.

THE FAIRFIELD SHIPBUILDING

AND ENGINEERING CO., LIMITED:

A. W. Saupron Electrical Engineers Date _____

COMPASSES.

Distance between dynamo or electric motors and standard compass 20 feet

Distance between dynamo or electric motors and steering compass 28 "

The nearest cables to the compasses are as follows:—

A cable carrying _____ Amperes _____	feet from standard compass _____	feet from steering compass _____
A cable carrying <u>All Compasses are lighted electrically</u> Amperes _____	feet from standard compass _____	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 _____ degrees on _____ course in the case of the standard compass and _____ degrees on _____ course in the case of the steering compass.

THE FAIRFIELD SHIPBUILDING

AND ENGINEERING CO., LIMITED:

A. W. Saupron Builder's Signature. Date _____

GENERAL REMARKS.

The installation has been satisfactorily fitted & worked well on trial.

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Arthur L. Jones

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

Committee's Minute

Glasgow 30 JUL 1906

Received Electric light!

It is submitted that the Record Elec. Light be noted in the Reg. Books.

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Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 1. 1-1906

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