

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6862

Port of Belfast Date of First Survey Sept. 23rd Date of Last Survey Sept. 28th No. of Visits 15
 No. in Reg. Book on the ~~Iron~~ Steel 7. 8. 8. "Star of India" Port belonging to Belfast
 Built at Belfast By whom Notman Clark & Co. Ltd. When built 1910
 Owners Star Line Ltd. Owners' Address London
 Yard No. 297 Electric Light Installation fitted by Wm. Harvie & Co. Ltd. When fitted 1910

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine of the single cylinder vertical open type, direct coupled to Multipolar Dynamo.

Capacity of Dynamo 165 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Thrust Recess Whether single or double wire system is used Double

Position of Main Switch Board near Dynamo having switches to groups 4 groups of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Forward 6 way, Midships 9 way, Aft 9 way, Engines 9 way and 6 way. Sub Dist. Boxes:- Forecastle 6 way, Navigation 9 way, Aft Deck House 6 way, Refrigerating Engine Rm. 6 way.

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 pure tin and constructed to fuse at an excess of 50 to 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 Yes

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes. Metal & porcelain only.

Total number of lights provided for 227-16 arranged in the following groups:-

A	<u>52</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>29</u>	Amperes
B	<u>49</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>27</u>	Amperes
C	<u>56</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>31</u>	Amperes
D	<u>40</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>39</u>	Amperes
E	<u>✓</u>	lights each of	<u>✓</u>	candle power requiring a total current of	<u>✓</u>	Amperes
<u>2</u>	Mast head lights with	<u>2</u>	lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.2</u> Amperes
<u>2</u>	Side lights with	<u>2</u>	lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.2</u> Amperes
<u>10</u>	Cargo lights of each of	<u>5-16</u>	candle power, whether incandescent or are lights	<u>Incandescent.</u>		

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

Where are the switches controlling the masthead and side lights placed In Wheel House on Bridge.

DESCRIPTION OF CABLES.

Main cable carrying 126 Amperes, comprised of 37 wires, each 14 L.S.G. diameter, .183 square inches total sectional area

Branch cables carrying 29 Amperes, comprised of 7 wires, each 14 L.S.G. diameter, .034 square inches total sectional area

Branch cables carrying 11 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .0124 square inches total sectional area

Leads to lamps carrying 2.8 Amperes, comprised of 1 wire, each 16 L.S.G. diameter, .0032 square inches total sectional area

Cargo light cables carrying 2.8 Amperes, comprised of 145 wires, each 38 L.S.G. diameter, .004 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

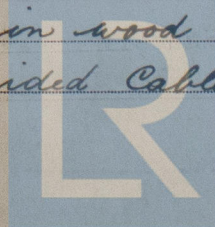
Conductors of tinned copper, insulated with pure and vulcanised rubber taped, braided, and compounded. In Holds and Engine Rm., cables lead covered, padded, armoured with gal. iron wires, braided & compounded overall.

Joints in cables, how made, insulated, and protected Joints entirely dispensed with, junction boxes with porcelain interiors used instead.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux ✓ 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 None.

How are the cables led through the ship, and how protected In accommodation, run in wood casing, in Eng. Rm. Holds etc. Lead Covered Armoured & Braided Cables run through beams and clipped to decks.



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible All cables accessible ✓
 What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Cables lead covered armoured and braided ✓
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat L.C. A. & B. ✓
 What special protection has been provided for the cables near boiler casings L.C. A. & B. ✓
 What special protection has been provided for the cables in engine room L.C. A. & B. also in iron tubing ✓
 How are cables carried through beams through teak ferrules ✓ through bulkheads, &c. W.I. glands ✓
 How are cables carried through decks through gal. iron tubes 15" high, flanged to deck & made tight ✓
 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 Lead covered armoured and braided ✓
 Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage None ✓
 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 None ✓
 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 _____ an amperemeter, fixed on 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 98 per cent. that of pure copper.
 Insulation of cables is guaranteed to have a resistance of not less than 2,500 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.

J. M. Harvie & Co. Ltd. Electrical Engineers Date 17.11.10
A.P.S.

COMPASSES.

Distance between dynamo or electric motors and standard compass 120' 0"
 Distance between dynamo or electric motors and steering compass 146' 0"

The nearest cables to the compasses are as follows:—

A cable carrying	<u>.3</u>	Amperes	<u>led into</u>	<u>feet from</u>	standard compass	<u>also into</u>	<u>feet from</u>	steering compass
A cable carrying	✓	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 nil degrees on all course in the case of the standard compass and nil degrees on all course in the case of the steering compass.

M. Prachan
 SECRETARY

Builder's Signature. Date 19th November 1910

GENERAL REMARKS.

The installation has been well fitted, and ran satisfactorily on trial

It is submitted that this vessel is eligible to remain as CLASSED.

Elec. light.

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.