

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8172

Port of BELFAST Date of First Survey 24th Jan^y 1919 Date of Last Survey 25th Jan^y 1919 No. of Visits 2
 No. in on the Iron or Steel T.S.S. "Royalstar" Ex. War Charon. Port belonging to LONDON.
 Reg. Book Built at BELFAST. By whom Workman Clark & Co. Ltd., When built 1919
 Owners The Blue Star Line Ltd., Owners' Address London.
 Yard No. 438 Electric Light Installation fitted by Sunderland Forge & Eng. Co. Ltd., When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

consisting

Two Combined Generating Plants, each of Open Type, Single Cylinder Steam Engine direct coupled to Compound Wound Multipolar Dynamo, on Combined Bedplate.

Capacity of Dynamo each 100 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed In Engine Room Whether single or double wire system is used Double
 Position of Main Switch Board In Engine Room having switches to groups Six of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each

One Board in Wheel House for Navigation Lights 8 switches.

Two " " Engine Room. 8 " each

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 Yes

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 276 arranged in the following groups:—

A	53	lights each of	16	candle power requiring a total current of	31.8	Amperes
B	81	lights each of	16	candle power requiring a total current of	48.6	Amperes
C	27	lights each of	16	candle power requiring a total current of	16.2	Amperes
D	27	lights each of	16	candle power requiring a total current of	16.2	Amperes
E	88	lights each of	16	candle power requiring a total current of	52.8	Amperes
F. Wireless					30.	
One	Mast head light with	one	lamps each of	32	candle power requiring a total current of	1.2
Two	Side light with	one	lamps each of	32	candle power requiring a total current of	2.4
54	Cargo lights of		16	candle power, whether incandescent or arc lights	Incandescent	

If arc lights, what protection is provided against fire, sparks, &c. No Arc Lamps fitted

Where are the switches controlling the masthead and side lights placed On Bridge.

DESCRIPTION OF CABLES.

Main cable carrying	100	Amperes, comprised of	19	wires, each	14	S.W.G. diameter	0.09372	square inches total sectional area
Branch cables carrying	31.8	Amperes, comprised of	19	wires, each	20	S.W.G. diameter	0.01899	square inches total sectional area
Branch cables carrying	16.2	Amperes, comprised of	7	wires, each	18	S.W.G. diameter	0.01246	square inches total sectional area
Leads to lamps carrying	2.4	Amperes, comprised of	7	wires, each	25	S.W.G. diameter	0.0021	square inches total sectional area
Cargo light cables carrying	3.6	Amperes, comprised of	114	wires, each	38	S.W.G. diameter	0.00319	square inches total sectional area

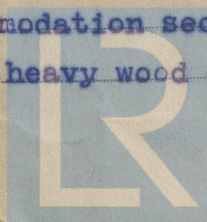
DESCRIPTION OF INSULATION, PROTECTION, ETC. Tinned Copper Conductors, insulated with pure & vulc. dia rubber, taped and the whole vulcanized together and finished as follows:—
main in pipes and casing, braided and compounded overall. In accommodation lead covd & braided.
In Engine Room: lead covered armoured and braided.

Joints in cables, how made, insulated, and protected No Joints

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 lead covered & braided in accommodation secured with brass saddles, main run in screwed galvanized watertight tubing or heavy 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 and Braided.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat **Lead Coved. Armoured & Braided**

What special protection has been provided for the cables near boiler casings **Lead Covered armoured and braided.**

What special protection has been provided for the cables in engine room **Lead Covered armoured and braided.**

How are cables carried through beams **through holes bushed with fibre through bulkheads, &c. through brass W.E.glands**

How are cables carried through decks **through 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 **To heavy brass terminals in cast iron boxes on Deck.**

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 **2**

Is the installation supplied with **2** voltmeters **Yes**, and with **2** amperemeters **Yes**, fixed **In Engine Room**

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 **600** 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 working condition.

COMPASSES.

Distance between dynamo or electric motors and standard compass **145 feet.**

Distance between dynamo or electric motors and steering compass **140 "**

The nearest cables to the compasses are as follows:—

Cable	Amperes	Feet from standard compass	Feet from steering compass
A cable carrying 7.8	6	6	
A cable carrying 0.6	3	3	
A cable carrying ---	---	---	

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 **No** degrees on **all** course in the case of the standard compass and **No** degrees on **all** course in the case of the steering compass.

GENERAL REMARKS.

This installation is of good description, and has been fitted in accordance with the Rules.

It is submitted that this vessel is eligible for

THE RECORD. ELEC. LIGHT.

Roll 6/8/19

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

Committee's Minute



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.