

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8173

Port of BELFAST Date of First Survey 7th March Date of Last Survey 2nd June No. of Visits 12

No. in Reg. Book on the Iron or Steel T.S.S. "Albionstar" Port belonging to Belfast  
 Built at Belfast By whom Workman Clark & Co. Ltd., When built 1919

Owners The Blue Star Line Ltd., Owners' Address Yard No. 439, London  
 Yard No. 439 Electric Light Installation fitted by The Sunderland Forge & Eng. Co. Ltd When fitted 1919

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

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

Capacity of Dynamo each 150 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 Nine 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 301 arranged in the following groups :-

Group	Description	Number of Lights	Amperes	Notes
J.		27	16	
A	lights each of	63	16	candle power requiring a total current of 37.8 Amperes
B	Wireless			lights each of --- candle power requiring a total current of 30.0 Amperes
C		87	16	lights each of --- candle power requiring a total current of 30.0 Amperes
D	Workshop Motor			--- candle power requiring a total current of 56.0 Amperes
E		72	16	lights each of --- candle power requiring a total current of 43.2 Amperes
F	Cooler Motor			--- candle power requiring a total current of 40.0 Amperes
G		27	16	lights each of --- candle power requiring a total current of 16.2 Amperes
H	Cooler Motor			--- candle power requiring a total current of 40.0 Amperes
	2 Mast head light with 1 lamps each of	32	2.4	candle power requiring a total current of 2.4 Amperes
	2 Side light with 1 lamps each of	32	2.4	candle power requiring a total current of 2.4 Amperes
	2 - 2000 C.P.			
	54 - 16 C.P. Cargo lights of			--- candle power, whether incandescent or arc lights <u>Incandescent</u>

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.

Amperes	Comprised of	Wires	Each	S.W.G. diameter	Square inches total sectional area
Main cable carrying <u>150</u>	<u>37</u>	<u>14</u>		<u>0.18240</u>	
Branch cables carrying <u>56</u>	<u>19</u>	<u>18</u>		<u>0.03375</u>	
Branch cables carrying <u>40</u>	<u>19</u>	<u>20</u>		<u>0.01899</u>	
Leads to lamps carrying <u>2.4</u>	<u>7</u>	<u>25</u>		<u>0.0021</u>	
Cargo light cables carrying <u>3.6</u>	<u>114</u>	<u>38</u>		<u>0.00319</u>	

DESCRIPTION OF INSULATION, PROTECTION, ETC. Tinned Copper Conductors insulated with pure and vulc. india rubber, taped and the whole vulcanized together, and finished as follows:-

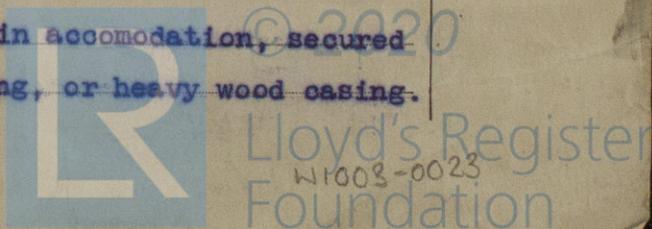
Mains in pipe and casing, braided and Compounded overall. In accommodation lead Covered & braided. In Engine Room: lead covered armoured and braided overall.

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 --- 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 Lead covered & Braided cables in accommodation, secured with brass saddles, mains 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 & braided

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead Cov. 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.t.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 -----

Is the installation supplied with 3 voltmeters Yes, and with 3 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 safe working condition.

The Sunderland Forge & Engineering Co. Ltd., Electrical Engineers Date 3rd July '19.

**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:—

A cable carrying	<u>9</u>	Amperes	<u>6</u>	feet from standard compass	<u>6</u>	feet from steering compass
A cable carrying	<u>0.6</u>	Amperes	<u>3</u>	feet from standard compass	<u>3</u>	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.

Wright Builder's Signature. Date -----

**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. H. Rel. 6/8/19

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



Im. 9.14.—Transfer.