

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 9333

Port of Belfast Date of first Survey 2<sup>nd</sup> Mar. Date of Last Survey 20<sup>th</sup> March No. of Visits 8  
 No. in Reg. Book Y.S.S. Inverlago Port belonging to London  
 Built at Belfast By whom Harland & Wolff Ltd When built 1925  
 Owners Sago Shipy Co Ltd Owners' Address Harland & Wolff Ltd When fitted 1925  
 Yard No. 699 Electric Light Installation fitted by Harland & Wolff Ltd

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two single cylinder 5" diam x 2 1/2" stroke forced lubrication engines each direct coupled to one 5 K.W. Dynamo running at a speed of 650 R.P.M.

Capacity of Dynamo 45.45 Amperes at 110 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 A, B, C, D, E & F of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each One in Engine Room with 6 switches and one in Wheelhouse with 4 switches

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 96 arranged in the following groups:—

A Lighting Machinery spaces	1 light of 660 C.P.	200	candle power requiring a total current of	9.36	Amperes
B Lighting Accommodation	32 lights each of 27 C.P. + 10-12" Cabin Fans	27	candle power requiring a total current of	14.2	Amperes
C Navigation Officers Accommodation	6 each of 6 C.P.	27 C.P. + 5-12"	" " candle power requiring a total current of	14.6	Amperes
D Wireless	3 lights each of 100 C.P.	3	" " candle power requiring a total current of	11.36	Amperes
E Cargo: Tank Cluster	15 lights each of 27	27	candle power requiring a total current of	4.09	Amperes
F Spare Circuit	1 lamp each of 100	100	candle power requiring a total current of	9.09	Amperes
2 Side lights with	1 lamp each of 100	100	candle power requiring a total current of	1.818	Amperes
3-5 L <sub>h</sub> Cargo lights	each of 135	135	candle power, whether incandescent or arc lights	56.337	Incandescent

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

Where are the switches controlling the masthead and side lights placed in Wheelhouse

### DESCRIPTION OF CABLES.

Main cable carrying	45.45 Amperes, comprised of	19 wires, each .052 S.W.G. diameter,	.04 square inches total sectional area
Branch cables carrying	19.7 Amperes, comprised of	7 wires, each .044 S.W.G. diameter,	.01 square inches total sectional area
Branch cables carrying	9.36 Amperes, comprised of	4 wires, each .036 S.W.G. diameter,	.007 square inches total sectional area
Leads to lamps carrying	3 Amperes, comprised of	3 wires, each .036 S.W.G. diameter,	.003 square inches total sectional area
Cargo light cables carrying	1.3 Amperes, comprised of	110 wires, each .0076 S.W.G. diameter,	.005 square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

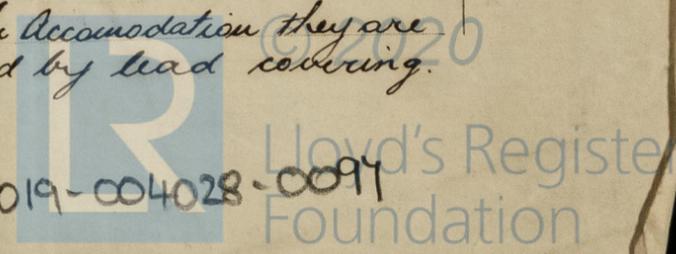
Cables are of 600 megohm class & b. M.A. quality insulated with pure & vulcanized rubber & lead covered or lead covered steel armoured and braided.

Joints in cables, how made, insulated, and protected No joints in Main cables. Those made in Branch Wiring are in properly constructed junction boxes of porcelain protected by cast iron covers

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

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 Cables protected by lead covered, steel armoured and braided, & passed through steel pipes along decks. In Accommodation they are clipped direct to Bulkhead, or iron plating & protected by lead covering, or lead covered steel armoured & braided.



**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 *Cables protected by lead covering, steel armouring & braided overall, those on exposed decks further protected by steel pipes.* ✓  
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead sheathed, armoured & braided.* ✓  
 What special protection has been provided for the cables near boiler casings *Lead sheathed, armoured & braided.* ✓  
 What special protection has been provided for the cables in engine room *Lead sheathed, armoured & braided.* ✓  
 How are cables carried through beams *beams bushed with lead.* through bulkheads, &c. *in glands if M.T. otherwise lead bushed.* ✓  
 How are cables carried through decks *in iron 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 *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 —  
 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 —  
 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 a voltmeter *Yes.* ✓ and with an amperemeter *Yes.* ✓, fixed *on Switchboard.*

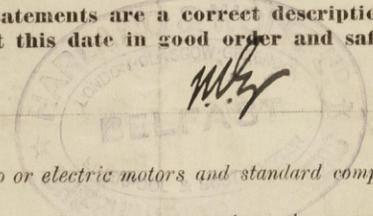
**VESSELS BUILT FOR CARRYING PETROLEUM.**

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas *Yes.* ✓  
 Are any switches, fuses, or joints of cables fitted in the pump room or companion *No.* ✓  
 How are the lamps specially protected in places liable to the accumulation of vapour or gas *Lamps in Gas-tight fittings*

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.



Electrical Engineers Date *23/4/25*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *216 ft from Dynamos, & 20 ft to Wireless Rotary*  
 Distance between dynamo or electric motors and steering compass *214" " " 9 1/4 ft " " "*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>3.</i>	Amperes	<i>8.</i>	feet from standard compass	<i>5.</i> ✓	feet from steering compass
A cable carrying	<i>11.36.</i>	Amperes	<i>12.</i>	feet from standard compass	<i>6.</i> ✓	feet from steering compass
A cable carrying	<i>11.6.</i>	Amperes	<i>20</i>	feet from standard compass	<i>12.</i> ✓	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power

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* ✓ *all* course in the case of the steering compass.



Builder's Signature. Date

**GENERAL REMARKS.**

*This installation was fitted & in accordance with the Rules & was found satisfactory when tried under steam on full & overload.*

*For Yes see 1st Entry Report on Machinery.*

*William Bates.*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

It is submitted that this vessel is eligible for THE RECORD. *Per Light.*



Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.