

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Port of Glasgow Date of First Survey 21st April Date of Last Survey 29th July No. of Visits 8  
 No. in on the Iron or Steel S.S. "Chantala" Port belonging to Glasgow  
 Reg. Book 54264 Built at W. Hiteirich By whom Messrs Barclay Curle & Co When built 1920  
 Owners Messrs The British India St. Nao. Co. Owners' Address  
 Yard No. 589 Electric Light Installation fitted by Messrs A. Watson & Co When fitted 1920

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Compound Vertical Enclosed Engine 5" x 11" x 6" (by Shanks) direct coupled to compound wound dynamo (by E.C.C.) giving an output of 14.5 K.W. at 100 Volts, when running at 450 R.P.M. on 100 lbs steam pressure.  
 Capacity of Dynamo 145 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Starboard side of Engine Room Whether single or double wire system is used Double  
 Position of Main Switch Board Adjacent to Dynamo having switches to groups 5 Circuits of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each None

If fuses are fitted on main switch board to the cables of main circuit Yes and on each auxiliary Fuse 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

Total number of lights provided for 374 arranged in the following groups:—

Group	Description	Quantity	Wattage	Candle Power	Current (Amperes)
A	Navigation	5 fms lights each of 22	32 CARBON, 16 METALLIC, 48 WATT	14.48	Amperes
B	Brigs & Crew	6 fms lights each of 157	16 CP METALLIC, 1000 WATT, 48	45.24	Amperes
C	Wireless	- lights each of 51	16 CP METALLIC, 500 WATT	25.00	Amperes
D	Engine Room & Lathe	2 fms lights each of 104	16 CP METALLIC, 48 WATT, 1000	32.20	Amperes
E	Accommodation	17 fms lights each of 14	16 CP METALLIC, 48 WATT, 1000	38.96	Amperes
	Must head light with	1 lamps each of	32 C.P.	2.56	Amperes
	Side light with	1 lamps each of	32 C.P.	2.56	Amperes
	Cargo lights of	40	1000 Watt, 16 cp metallic		

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 In the wheelhouse.

## DESCRIPTION OF CABLES.

Main cable carrying	145.00 Amperes, comprised of	37 wires, each	13 S.W.G. diameter,	.250 square inches total sectional area
Branch cables carrying	45.24 Amperes, comprised of	19 wires, each	14 S.W.G. diameter,	.094 square inches total sectional area
Branch cables carrying	25.00 Amperes, comprised of	7 wires, each	16 S.W.G. diameter,	.022 square inches total sectional area
Leads to lamps carrying	60 Amperes, comprised of	7 wires, each	25 S.W.G. diameter,	.002 square inches total sectional area
Cargo light cables carrying	1.60 Amperes, comprised of	7 wires, each	25 S.W.G. diameter,	.002 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

In Machinery Spaces, holds, etc, cables are lead covered, armoured & braided.  
 In Accommodation cables are lead covered.  
 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 In Machinery Spaces etc, lead covered, armoured & braided, cables clipped to beams, decks, & bulkheads. In Accommodation lead covered cables, clipped to wooden beams & bulkheads.

**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 are Lead Covered Armoured & Braided

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

What special protection has been provided for the cables near boiler casings Lead Covered Armoured & Braided Cables

What special protection has been provided for the cables in engine room Lead Covered Armoured & Braided Cables

How are cables carried through beams In Fibre Terminals through bulkheads, etc. in w. of Packing Boxes

How are cables carried through decks In w.t. Deck Tubes standing 16" above deck level

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 & Braided Cable closely clipped to under side of decks

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 Iron Fittings with Heavy Cast Iron Covers

Where are the main switches and fuses for these lights fitted On Decks, at Entrances or Stairways

If in the spaces, how are they specially protected Iron Fittings with Heavy Cast Iron Covers

Are any switches or fuses fitted in bunkers No.

Cargo light cables, whether portable or permanently fixed Portable None 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 Switchboards

**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 500 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.

FOR ARCHD. WATSON & CO., LTD.,

Electrical Engineers

Date 1st September 1920

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 84 feet

Distance between dynamo or electric motors and steering compass 84 feet

The nearest cables to the compasses are as follows:—

A cable carrying	14.48	Amperes	7	feet from standard compass	4	feet from steering compass
A cable carrying	1.28	Amperes	2	feet from standard compass	3	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 any course in the case of the standard compass and Nil degrees on any course in the case of the steering compass.

FOR BRIDAY, CURLE & CO., LTD.

H. Casey Secretary

Builder's Signature.

Date 1st Sept 1920

**GENERAL REMARKS.**

This installation has been fitted on board under special survey  
Tested under full working conditions & found satisfactory

It is submitted that this vessel is eligible for THE RECORD. Elec Lt

Rell  
16/9/20

J. Stanley Rankin  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW

Elec. Light

17 SEP 1920

W.M.



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

HC  
6.9.20

Im. 7.19.—Transfer.