

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 42152

Part of GLASGOW. Date of First Survey 25-8-22 Date of Last Survey 31-8-22 No. of Visits 4  
 No. in Reg. Book 78716 on the Iron or Steel SS "DUNSTAFFNAGE" Port belonging to GLASGOW  
 Built at PORT GLASGOW By whom MESRS LITHGOW'S LTD When built 1922  
 Owners MESRS GLEN & CO Owners' Address \_\_\_\_\_  
 Yard No. 434 Electric Light Installation fitted by MESRS BENNETT & RUTHERFORD LTD When fitted 1922.

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*- TOTAL KW. = 10 -*  
 One Compound Wound four pole combined Engine & Dynamo manufactured by Clarke Chapman & Co Ltd  
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Main Engine Platform Whether single or double wire system is used Double  
 Position of Main Switch Board Near Dynamo having switches to groups Seven of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Forecastle at Forecastle, Saloon, Pantry, Wheel House, Engineers Mess Room & Engine Room.

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 25 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 arranged in the following groups :-

A Forecastle	14 lights each of	16	candle power requiring a total current of	8.4 Amperes
B Saloon etc	22 lights each of	16	candle power requiring a total current of	13.2 Amperes
C Navigation	18 lights each of	16	candle power requiring a total current of	10.8 Amperes
D Engineers etc	18 lights each of	16	candle power requiring a total current of	10.8 Amperes
E Engine Room	23 lights each of	16	candle power requiring a total current of	13.8 Amperes
F Clusters	25	16	candle power requiring a total current of	15.6
2 Mast head light with	1 lamps each of	32	candle power requiring a total current of	1.2 Amperes
2 Side light with	1 lamps each of	32	candle power requiring a total current of	1.2 Amperes
5 Cargo lights of		80	candle power, whether incandescent or arc lights	Incandescent

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

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

## DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area  
 Branch cables carrying 10 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area  
 Branch cables carrying 15 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area  
 Leads to lamps carrying 3 Amperes, comprised of 1 wires, each 16 S.W.G. diameter, .003 square inches total sectional area  
 Cargo light cables carrying 3 Amperes, comprised of 1 wires, each 16 S.W.G. diameter, .003 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

In Accommodation cables are protected by Pure Vulcanised India rubber, taped and Vulcanised together, thereafter served with lead covering. In Holds, Engine Room etc cables are armoured with galvanized Iron wires.  
 Joints in cables, how made, insulated, and protected None

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 Armoured & clipped to deck



**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 Armoured ✓

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Armoured ✓

What special protection has been provided for the cables near boiler casings Armoured ✓

What special protection has been provided for the cables in engine room

How are cables carried through beams lined & lined with fibre through bulkheads, &c. W. I. glands ✓

How are cables carried through decks Iron decks tubes ✓

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 Armoured ✓

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

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 main 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

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.

*For and on behalf of*  
**Bennett & Rutherford, Limited** Electrical Engineers Date 1<sup>st</sup> September 1922

**COMPASSES.**

*C. B. Taylor*

Distance between dynamo or electric motors and standard compass 190

Distance between dynamo or electric motors and steering compass 180

The nearest cables to the compasses are as follows:—

A cable carrying	<u>5</u>	Amperes	<u>10</u>	feet from standard compass	<u>8</u>	feet from steering compass
A cable carrying	<u>2</u>	Amperes	<u>in</u>	feet from standard compass	<u>in</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 any course in the case of the standard compass and nil degrees on any course in the case of the steering compass.

**LITHGOWS LIMITED.**  
*W. B. Allan* Builder's Signature. Date 12<sup>th</sup> October 1922

**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. Light J. Rankin  
 FEE - £10-0-0. 1/11/22 Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 17 OCT 1922**

*Elec. Light*



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

HC  
16-10-22

2m. 11. 10. - Transfer.