

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 40094

Port of Glasgow Date of First Survey 26/3/20 Date of Last Survey 14/6/20 No. of Visits 3
 No. in Reg. Book 322/SS on the Iron Steel SS Fairpark Port belonging to
 Built at Grangemouth By whom Messrs The Grangemouth D.D. When built 1920
 Owners The Glenholme Line of Steamers Ltd Owners' Address
 Yard No. 400 Electric Light Installation fitted by Messrs W.C. Martin & Co When fitted 1920

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 8 Kw. compound wound dynamo direct coupled to an open type vertical single cylinder double acting steam engine

Capacity of Dynamo 73 Amperes at 110 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Starting platform in engine Room Whether single or double wire system is used Single

Position of Main Switch Board near dynamo having switches to groups A, B, C, D & E of lights, &c., as below

Positions of auxiliary fuse boards and numbers of fuses on each Chart Room 6 way, Saloon 6 way, Steering Gear House 1-2 way & 2-4 ways, Crew space 4 way, Engine Room 4 way

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 yes

Total number of lights provided for 104 arranged in the following groups:—

A Saloon & Navigation	34 lights each of <u>32, 16, 8 & 6</u>	candle power requiring a total current of <u>18</u>	Amperes
B Midships & Aft	27 lights each of <u>32, 16 & 8</u>	candle power requiring a total current of <u>14.3</u>	Amperes
C Blusters	24 lights each of <u>16</u>	candle power requiring a total current of <u>12.0</u>	Amperes
D Engine Room	19 lights each of <u>16</u>	candle power requiring a total current of <u>9.5</u>	Amperes
E Wireless Telegraphy	lights each of <u>—</u>	candle power requiring a total current of <u>4.5</u>	Amperes
2 Mast head light with 2 lamps each of <u>32</u>	candle power requiring a total current of <u>1</u>	Amperes	
2 Side light with 2 lamps each of <u>32</u>	candle power requiring a total current of <u>1</u>	Amperes	
4 Cargo lights of <u>276</u>	candle power, whether incandescent or arc lights <u>incandescent</u>		

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

Where are the switches controlling the masthead and side lights placed in Chart Room

DESCRIPTION OF CABLES.

Main cable carrying <u>73</u> Amperes, comprised of <u>19</u> wires, each <u>14</u> S.W.G. diameter, <u>.094</u> square inches total sectional area
Branch cables carrying <u>18</u> Amperes, comprised of <u>7</u> wires, each <u>16</u> S.W.G. diameter, <u>.022</u> square inches total sectional area
Branch cables carrying <u>14.3</u> Amperes, comprised of <u>7</u> wires, each <u>16</u> S.W.G. diameter, <u>.022</u> square inches total sectional area
Leads to lamps carrying <u>2.5</u> Amperes, comprised of <u>1</u> wires, each <u>16</u> S.W.G. diameter, <u>.0032</u> square inches total sectional area
Cargo light cables carrying <u>3.36</u> Amperes, comprised of <u>108</u> wires, each <u>38</u> S.W.G. diameter, <u>.0048</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

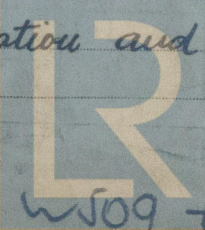
H.C. Copper wire tinned, insulated with pure & vulcanised rubber & tape, the whole vulcanised together, taped, braided & compounded or sheathed with lead or steel armour

Joints in cables, how made, insulated, and protected No joints except on terminals

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 in accommodation and steel armour in Holds, Engine Room & Boiler Room



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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *yes, except when cargo in holds.*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covering*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Steel armouring*

What special protection has been provided for the cables near boiler casings *Steel armouring*

What special protection has been provided for the cables in engine room *Steel armour or metal tubes*

How are cables carried through beams *lashed where unarmoured* through bulkheads, &c. *W.L. Glands*

How are cables carried through decks *Metal tubes fitted watertight to decks*

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 *Steel armour cables clipped openly protected by beams*

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 *Hook Connectors*

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

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.

W.C. Martin & Co

Electrical Engineers

Date *23rd June 1920*

COMPASSES.

Distance between dynamo or electric motors and standard compass *60 ft. from Dynamo*

Distance between dynamo or electric motors and steering compass *56 ft. from Dynamo*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>.28</i>	<i>6</i>	<i>1</i>	
<i>.28</i>	<i>1</i>	<i>6</i>	

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 *a certain* course in the case of the standard compass and *Nil* degrees on *the same* course in the case of the steering compass.

J.P. Jackson

Builder's Signature. Date *26th June 1920*

GENERAL REMARKS.

This installation has been fitted on board under special survey. Tested under full working conditions and satisfactory.

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

J.W.D.
20/7/20

J.B. Rankin

Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW 6 - JUL 1920*

Elec. Light



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