

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 39560

Port of Glasgow Date of First Survey 9/12/19 Date of Last Survey 30/12/19 No. of Visits 3
 No. in on the ~~Iron~~ Steel SS. HARMONIDES Port belonging to Liverpool
 Reg. Book 3878 Built at Irvine By whom Messrs. Ayrshire Dock & S.S. Co. Ltd. When built 1919
 Owners Messrs. R.P. Houston 100 Ltd. Owners' Address _____
 Card No. 484 Electric Light Installation fitted by Messrs. Salford Gair & McKay When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

England forced lubrication engine direct coupled to compound wound multi-pole dynamo
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or ~~alternating~~ cont. current
 Where is Dynamo fixed Lower Engine room Stbd Whether single or double wire system is used double
 Position of Main Switch Board Lower Engine room Stbd having switches to groups 6 groups of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each _____

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
 Where a 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 189 arranged in the following groups:—

<u>24</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>12</u>	Amperes
<u>58</u>	lights each of	<u>various</u>	candle power requiring a total current of	<u>21</u>	Amperes
<u>67</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>33.5</u>	Amperes
<u>9</u>	lights each of	<u>various</u>	candle power requiring a total current of	<u>7</u>	Amperes
<u>31</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>15.5</u>	Amperes
<u>2</u>	Mast head lights with <u>2</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2</u>	Amperes
<u>2</u>	Side lights with <u>2</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2</u>	Amperes
<u>6</u>	Cargo lights of each	<u>96</u>	candle power, whether incandescent or arc lights	<u>Incand.</u>	

Are lights, what protection is provided against fire, sparks, &c. _____
 Where are the switches controlling the masthead and side lights placed Chart Room

DESCRIPTION OF CABLES.

Cable carrying 100 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area
 Each cables carrying 33.5 Amperes, comprised of 7 wires, each 17 S.W.G. diameter, .017 square inches total sectional area
 Each cables carrying 12 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .012 square inches total sectional area
 Cables to lamps carrying 3 Amperes, comprised of 1 wires, each 17 S.W.G. diameter, .002 square inches total sectional area
 Light cables carrying 3 Amperes, comprised of 1 wires, each 14 S.W.G. diameter, .005 square inches total sectional area

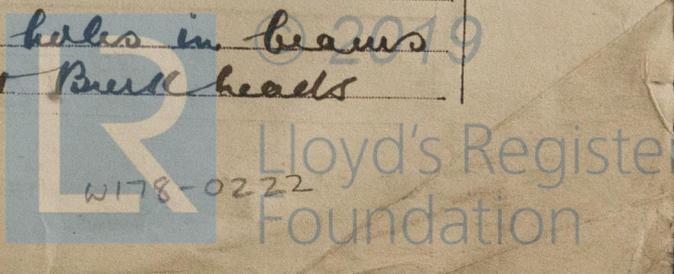
DESCRIPTION OF INSULATION, PROTECTION, ETC.

Uninsulated & braided cable clipped to decks & protected by piping when liable to damage
 Are cables, how made, insulated, and protected No joints

Are 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 bunks, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage _____
 Are any joints in or branches from the cable leading from dynamo to main switch board No
 Are the cables led through the ship, and how protected Through clean holes in beams & d. clipped hard to decks & Bulkheads

a 26.5 kw 105 volt DC generator set installed
 cope with A/C installation
 Engine Belvoir-Moreno 40603
 Hammer 2000 generator
 J. Dunlop

14.3.41



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 casing

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Armour & braiding

What special protection has been provided for the cables near boiler casings Armour & braiding

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

How are cables carried through beams Through clean holes through bulkheads, &c. W. T. Glands

How are cables carried through decks W. T. Deck pipes

Are any cables run through coal bunkers no or cargo spaces yes or spaces which may be used for carrying cargo, stores, or baggage

If so, how are they protected Armour & braided cable covered with sheet iron

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 Portable

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 Switch board

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.

TELFORD, GRIER & MACKAY, LTD.

Electrical Engineers

Date _____

COMPASSES.

Distance between dynamo or electric motors and standard compass 20 feet from wireless cabin

Distance between dynamo or electric motors and steering compass 15 " " " "

The nearest cables to the compasses are as follows:—

A cable carrying	5	Amperes	15	feet from standard compass	12	feet from steering compass
A cable carrying	.5	Amperes	3	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.

AYRSHIRE DOCKYARD CO., LIMITED.

A. McCall

Builder's Signature.

Date 16-1-20.

GENERAL REMARKS.

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

ELEC. LIGHT. 20/1/20

J. Stanley Rankin

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 37 JAN 1920

Elec. Light



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

AC. 26-1-20

100,116—Transfer.