

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 41725

Port of Glasgow. Date of First Survey 17. 12. '20 Date of Last Survey 7. 2. '22 No. of Visits 10.
 No. in Reg. Book 14126 on the Iron or Steel S.S. "GORILLA" Port belonging to Glasgow
 Built at Govan By whom Messrs Harland & Wolff When built 1921
 Owners Messrs G. J. Burns Ltd. Owners' Address 30 Jamaica St. Glasgow
 Yard No. 626 Electric Light Installation fitted by Messrs Harland & Wolff Ltd. When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

- TOTAL KW = 10 -

One 10. H.P. "Campbell & Isherwood" dynamo coupled direct to a 6 1/4" x 4 1/2" "Howden" forced lubrication steam engine running at 550 R.P.M.
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine Room, port. Whether single or double wire system is used Double.
 Position of Main Switch Board Engine Room, port. having switches to groups A, B, C, & D 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 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 tinned copper 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 91 arranged in the following groups:—

A Navigation - 18 lights each of <u>2-30W, 4-30 CP</u>	candle power requiring a total current of <u>8.94</u>	Amperes
B Accommodation - 40 lights each of <u>39-30W, 1-16 CP</u>	candle power requiring a total current of <u>12.26</u>	Amperes
C Cargo - 12 lights each of <u>16</u>	candle power requiring a total current of <u>6.72</u>	Amperes
D Machinery Spaces 21 lights each of <u>16</u>	candle power requiring a total current of <u>11.8</u>	Amperes
E lights each of	candle power requiring a total current of	Amperes
1. Mast head light with 1 lamp each of <u>32</u>	candle power requiring a total current of <u>1.1</u>	Amperes
2. Side light with 1 lamp each of <u>32</u>	candle power requiring a total current of <u>2.2</u>	Amperes
2-6 CP. Cargo lights of <u>16</u>	candle power, whether incandescent or arc lights <u>Incandescent</u>	

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 43.05 Amperes, comprised of 19 wires, each .083 S.W.G. diameter, .1 square inches total sectional area
 Branch cables carrying 12.26 Amperes, comprised of 7 wires, each .044 S.W.G. diameter, .01 square inches total sectional area
 Branch cables carrying 11.8 Amperes, comprised of 4 wires, each .036 S.W.G. diameter, .007 square inches total sectional area
 Leads to lamps carrying 1.8 Amperes, comprised of 3 wires, each .036 S.W.G. diameter, .003 square inches total sectional area
 Cargo light cables carrying 3.36 Amperes, comprised of 100 wires, each .006 S.W.G. diameter, .0028 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cable of 600 meg. grade classed to B. M. A. insulated with pure vulcanized rubber, protected by lead covering in accommodation. Cables in Engine Room where exposed to mechanical injury protected with steel armouring & braiding

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 — 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, clipped to bulkhead in accommodation
Armoured & braided cables in Engine & Boiler Rms. Cables run in galvanized steel tubing where exposed to moisture

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 & braided cable in galvanized steel tubing.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Armoured & braided exposed.*

What special protection has been provided for the cables near boiler casings *Armoured & braided exposed.*

What special protection has been provided for the cables in engine room *Armoured & braided exposed.*

How are cables carried through beams *Beams bushed with lead.* through bulkheads, &c. *in glands of W. I.*

How are cables carried through decks *in bushed galvanized iron deck tubes*

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 *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 —

Cargo light cables, whether portable or permanently fixed *Permanent to socket* *Armoured & braided cable clipped to bulkhead where permanent.* How fixed *bulkhead where permanent.*

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.

FOR HARLAND & WOLFE LTD.

John Dickinson
Managing Director

Electrical Engineers

Date *30th Sept. 1921*

COMPASSES.

Distance between dynamo or electric motors and standard compass

70 feet

Distance between dynamo or electric motors and steering compass

60 feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>9.</i>	<i>5.</i>	<i>1.5.</i>	<i>1.5.</i>
<i>2.4.</i>	<i>5.</i>	<i>1.5.</i>	<i>1.5.</i>
<i>1.1.</i>	<i>5.</i>	<i>1.5.</i>	<i>1.5.</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 *all the* course in the case of the standard compass and *nil* degrees on *all the* course in the case of the steering compass.

FOR HARLAND & WOLFE LTD.

John Dickinson
Managing Director

Builder's Signature.

Date *30th Sept. 1921*

GENERAL REMARKS.

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

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11/14/22

Elec. Light

J. Rankin

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

GLASGOW 14 FEB 1922

Elec. Light.



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