

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 41586

Port of Glasgow Date of First Survey 3. 9. 20 Date of Last Survey 8. 12. 21 No. of Visits 14
 No. in Reg. Book 18554 on the Iron or Steel S.S. "HOGARTH" Port belonging to Livepool
 Built at Meadowside By whom Messrs D. W. Henderson Ltd When built 1921
 Owners Liv. Brazil & River Plate S.N.C. Owners' Address Lampford 46 Old
 Yard No. 504 Electric Light Installation fitted by Messrs H. T. Boothroyd (Port Glasgow) When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

— TOTAL K.W. — 51

Two Vertical single cylinder open type Engines having cylinders 8" x 8" direct coupled to Compound Wound dynamo by "Boothroyd" of Booth. Steam pressure 100 lb. per sq. in.

Capacity of Dynamos each 163 Amperes at 110 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed In Engine Room Whether single or double wire system is used Single

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 One emergency board in Engine casing with five switches
Emergency Generator 15 Kilowatt.

If fuses are fitted on main switch board to the cables of main circuit Yes and on each auxiliary ^{Fuse} 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 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 480 arranged in the following groups:—

A	37	lights each of	6-6 1/2 4 8 1/2 16 16 1/2 1 3/2	candle power requiring a total current of	15	Amperes
B	16 . 43	lights each of	16	candle power requiring a total current of	30	Amperes
C	36 . 26	lights each of	16	candle power requiring a total current of	31	Amperes
D	90 . 105	lights each of	16	candle power requiring a total current of	97	Amperes
E	77 . 12	lights each of	16	candle power requiring a total current of	44	Amperes
2	Mast head light with	1	lamps each of	32	candle power requiring a total current of	2.25 Amperes
2	Side light with	1	lamps each of	32	candle power requiring a total current of	2.25 Amperes
34	Cargo lights of	32	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 In Chart Room.

DESCRIPTION OF CABLES.

Main cable carrying 163 Amperes, comprised of 37 wires, each .083 S.W.G. diameter, 2 square inches total sectional area
 Branch cables carrying 50 Amperes, comprised of 19 wires, each .17 S.W.G. diameter, .0459 square inches total sectional area
 Branch cables carrying 18 Amperes, comprised of 7 wires, each .20 S.W.G. diameter, .007 square inches total sectional area
 Leads to lamps carrying 3/2 Amperes, comprised of 1 wires, each .18 S.W.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 4 Amperes, comprised of 70 wires, each .36 S.W.G. diameter, .00322 square inches total sectional area

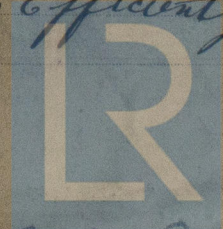
DESCRIPTION OF INSULATION, PROTECTION, ETC.

V.I. R. Taped, Lead covered cables, and where exposed in machinery spaces & Etc. armoured over lead with Galv. Steel wire armour, and where necessary protected in Steel Tubing
 Joints in cables, how made, insulated, and protected
No joints except mechanical ones.

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 Lead covered & Armoured & Efficiently Clipped



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 covered & Armoured, and where necessary in Steel Tubing*

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

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

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

How are cables carried through beams *Lead & Fibre Bushes* through bulkheads, &c. *Watertight Glands*

How are cables carried through decks *Watertight Deck Tubes*

Are any cables run through coal bunkers *Yes* or cargo spaces *Yes* or spaces which may be used for carrying cargo, stores, or baggage *Yes*

If so, how are they protected *as described above*

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 *Specially Guarded fittings*

Where are the main switches and fuses for these lights fitted *In Engine Room*

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 Watertight Connectors*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *Bolted*

How are the returns from the lamps connected to the hull *Brass Terminals fixed by 3/8" Dia. Screws*

Are all the joints with the hull in accessible positions *Yes*

Is the installation supplied with a voltmeter *Yes* and with an amperemeter *Yes* fixed *on Lashed 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.

H. T. BOOTHROYD (PORT GLASGOW) LTD.

COMPASSES.

Distance between dynamo or electric motors and standard compass *about 110 ft.*

Distance between dynamo or electric motors and steering compass *about 180 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>1/2</i>	<i>In Instrument</i>	<i>In Instrument</i>	
<i>1/2</i>	<i>10</i>	<i>6</i>	
<i>2</i>	<i>10</i>	<i>10</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 *any* course in the case of the standard compass and *Nil* degrees on *any* course in the case of the steering compass.

CARL & WILLIAM HENDERSON & CO., LIMITED

And W. Henderson

Builder's Signature. Date *13/12/21*

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.

FEE - £27-10-0 of 13.12.21. L.Y. 23/12/21 J.P. Rankin

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW

20 DEC 1921

Elec. Light



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

H.T. 16.12.21

2a.11.20. - Transfer.