

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 41612

Port of Glasgow Date of First Survey 21. 6. 1920 Date of Last Survey 12. 12. 1921 No. of Visits 7
 No. in on the Iron or Steel "S.S. HAROS BAY" Port belonging to London
 Reg. Book 22142 Built at Dalmuir By whom Wm Beardmore Ltd. When built 1921
 Owners Commonwealth of Australia Owners' Address
 Yard No. 616 Electric Light Installation fitted by Wm Beardmore Ltd. When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

MAIN DYNAMOS 2 IN NO. DIRECT COUPLED TO STEAM ENGINE 400 R.P.M. MAKERS. W.H. ALLEN
EMERGENCY " 1 " NO. OIL ENGINE, 500 R.P.M. MAKERS: NORRIS, HENTY & GARDNER
 Capacity of Dynamo MAIN :- 1136 AMPS AT 110 VOLTS EMERGENCY :- 318 Amperes at 110 VOLTS
 Where is Dynamo fixed MAIN :- ENGINE ROOM EMERGENCY :- "A" DECK AFT. Whether single or double wire system is used DOUBLE WIRE
 Position of Main Switch Board ENGINE ROOM having switches to groups of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each IN EMERGENCY DYNAMO RM "A" DECK AFT. 8 SWITCHES.

If fuses are fitted on main switch board to the cables of main circuits YES and on EMERGENCY switch board to the cables of EMERGENCY 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 50 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 1002 arranged in the following groups :-
 A 685 GENERAL lights each of 30 WATTS candle power requiring a total current of _____ Amperes
 B 255 EMERGENCY lights each of 30 " candle power requiring a total current of _____ Amperes
 C 5 NAVIGATION lights each of 32 candle power requiring a total current of _____ Amperes
 D 12 500 WATT CARGO lights each of 500 WATT 1000 candle power requiring a total current of _____ Amperes
 E 26 100 " lights each of 100 WATTS 200 candle power requiring a total current of _____ Amperes
2 Mast head lights with 1 lamp each of 32 candle power requiring a total current of _____ Amperes
2 Side light with 1 lamp each of 32 candle power requiring a total current of _____ Amperes
19 Cargo lights of 96 candle power, whether incandescent or arc lights INCANDESCENT

If are lights, what protection is provided against fire, sparks, &c.
 Where are the switches controlling the masthead and side lights placed IN WHEEL HOUSE

DESCRIPTION OF CABLES.

SEE PAGE 2.

Description	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area
Main cable carrying				
Branch cables carrying				
Branch cables carrying				
Leads to lamps carrying				
Cargo light cables carrying				

DESCRIPTION OF INSULATION, PROTECTION, ETC.

LEAD COVERED & ARMoured IN CARGO, MACHINERY & EXPOSED PLACES
LEAD COVERED IN CABIN SPACES
CAB TYRE FOR PORTABLE GEAR
 Joints in cables, how made, insulated, and protected NIL.
 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
 How are the cables led through the ship, and how protected ON PLATING & BEAMS LEAD COVERED & ARMoured.

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 & ARMOURD**

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat **LEAD COVERED & ARMOURD**

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

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

How are cables carried through beams **LEAD BUSHES** through bulkheads, &c. **BULKHEAD & LEVEN GLANDS**

How are cables carried through decks **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 **YES**

If so, how are they protected **LEAD COVERED & ARMOURD**

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage **IN CARGO & BAGGAGE SPACES; YES**

If so, how are the lamp fittings and cable terminals specially protected **BY CAST IRON BOX & COVER**

Where are the main switches and fuses for these lights fitted **ON DECK ABOVE AT ENTRANCES**

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 **Connection Box**

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.

William Beardmore & Co. Ltd. Electrical Engineers Date

COMPASSES.

Distance between dynamo or electric motors and standard compass **MAIN DYNAMO 143 FEET**
EMERG " 178 FEET **NEAREST MOTOR 30 FEET**
MAIN " 140 FEET
 Distance between dynamo or electric motors and steering compass **EMERG " 170 FEET** " " **24 "**

The nearest cables to the compasses are as follows:—

A cable carrying	14	Amperes	26	feet from standard compass	20	feet from steering compass
A cable carrying	5	Amperes	3	feet from standard compass	3	feet from steering compass
A cable carrying	18	Amperes	12	feet from standard compass	6	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 **all** course in the case of the standard compass and **nil** degrees on **Steering** course in the case of the steering compass.

FOR WILLIAM BEARDMORE & CO., LIMITED. Builder's Signature. Date **23/12/21**

GENERAL REMARKS.

This installation has been fitted on board under special survey tested under full working conditions and found satisfactory

PAK: 38-12-6 of 23.12.21. **J.B. Rankin** Surveyor to Lloyd's Register of Shipping.
 Paid 27.12.21. **J.B. Rankin**

Committee's Minute **GLASGOW 28 DEC 1921**
 Elec. Light

Rpt. 9a.

Port of **Glasgow**

Continuation of Report No. 4/612 dated

on the

S. S. LARGS BAY.

PARTICULARS OF SWITCHBOARD CIRCUITS, ETC.

	KW	AMPS	CABLE SIZE	AREA	
GENERATOR No 1	125	1136	127/103	1.0"	2 IN PARALLEL PER POLE ✓
" " 2.	125	1136	127/103	1.0"	2 " " " " ✓
EMERGENCY GENR.	35	318	91/103	.75"	✓

CIRCUIT NO.	FEEDING	LOAD	CABLE SIZE	AREA	
1	SEARCHLIGHT	60 AMPS.	37/064	.12"	✓
2	LIGHTING OFFICER'S ACCOM ^d	106 "	37/072	.15"	✓
3	GALLEY MOTORS.	76 "	37/072	.15"	✓
4	VENTILATION FANS	220 "	37/103	.3"	✓
5	FORCED DRAUGHT FANS	200 "	37/103	.3"	✓
6	3 TON CRANES	240 "	37/103	.3"	✓
7	EMERGENCY SWITCHBOARD	420 "	91/103	.75"	✓
8	WORKSHOP MOTOR	40 "	19/052	.04"	✓
9	EMERGENCY BILGE PUMP	250 "	61/093	.4"	✓
10	STEERING MOTOR	220 "	37/103	.3"	✓
11	LEADS TO LAMPS.	5 "	1/18	.0015"	✓
12	LIGHTING ACCOMMOD ^d	33 "	37/064	.12"	✓
13	" ENG ^r & BOILER RM	73 "	19/072	.075"	✓
14	WIRELESS TELEGRAPHY	27 "	19/072	.075"	✓
15	NAVIGATION LIGHTS.	18 "	13/17	.046"	✓
16	CARGO LIGHTS.	5 "	7/029	.0045"	✓

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.