

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 31636

Port of Glasgow Date of First Survey 28.5.12 Date of Last Survey 5.7.12 No. of Visits 7
 No. in 11 on the Iron or Steel Intombli Port belonging to Liverpool
 Reg. Book 11 Supp Built at Port Glasgow By whom Messrs Wm Hamilton & Co. When built 1912
 Owners Messrs J & J Harrison Owners' Address Liverpool
 Yard No. 237 Electric Light Installation fitted by W. N. Allen & Sons Limited When fitted 1912

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Compound wound multipolar type coupled direct to a vertical engine having cylinder 7" diameter by 6" stroke @ 250 revs per minute
 Capacity of Dynamo 100 Amperes at 62 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine room starting platform Whether single or double wire system is used Single wire
 Position of Main Switch Board " " near dynamo having switches to groups A, A', B, C & D of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each " " " " " "

If cut outs 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 cessel is wired on the double wire system are cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits yes where double wired
 Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 50 per cent over the normal current
 Are all cut outs fitted in easily accessible positions yes Are the fuses of standard dimensions wire 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 cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 96 + 2 arc arranged in the following groups :-

A	A	19	lights each of	16	candle power requiring a total current of	35	Amperes
B	A	10	lights each of	16	candle power requiring a total current of	35	Amperes
C	B	26	lights each of	16	candle power requiring a total current of	32	Amperes
D	C	20	lights each of	16	candle power requiring a total current of	20	Amperes
E	D	27	lights each of	"	candle power requiring a total current of	27	Amperes
	a	1	Mast head light with lamp each of	32	candle power requiring a total current of		Amperes
	Two	1	Side lights with lamp each of	32	candle power requiring a total current of	included in B	Amperes
	Four	5-16	Cargo lights of C.p		candle power, whether incandescent or arc lights	both	

 If arc lights, what protection is provided against fire, sparks, &c. Strong hexagon glazed lamps + wire mesh guard
 Where are the switches controlling the masthead and side lights placed In chart room

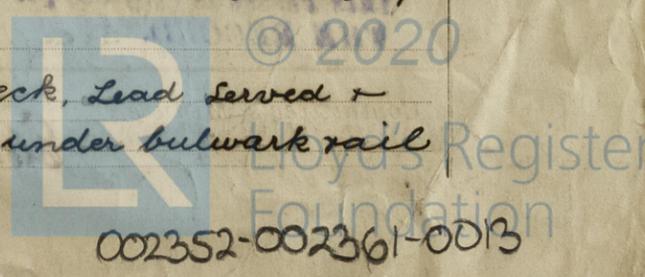
DESCRIPTION OF CABLES.

Main cable carrying 96 Amperes, comprised of 19 wires, each 14 L.S.G. diameter, .0956 square inches total sectional area
 Branch cables carrying 32 Amperes, comprised of 19 wires, each 18 L.S.G. diameter, .0344 square inches total sectional area
 Branch cables carrying 20 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .0225 square inches total sectional area
 Leads to lamps carrying 1 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0087 square inches total sectional area
 Cargo light cables carrying 5 Amperes, comprised of 145 wires, each 38 L.S.G. diameter, .06508 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure india rubber, then vulcanising in india rubber; india rubber coated tape the whole vulcanised together, Braided tarred flax and preservative compound in dry wood casing throughout accommodation-
 Joints in cables, how made, insulated, and protected spliced joints, soldered + reinsulated with a layer of felt tape built up with several layers pure rubber tape, then proof tape + varnished in strong wood casing other parts lead served + armoured
 Are all the joints of cables thoroughly soldered, resin only having been used as a flux 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 none in bunkers or spaces
 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 Along top of Bridge Deck, Lead served + armoured in galv iron pipe then forward + aft under bulwark rail



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, served & Armoured in galv'd iron pipe

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead, served & armoured

What special protection has been provided for the cables near boiler casings Lead, served & armoured

What special protection has been provided for the cables in engine room Lead, served & armoured

How are cables carried through beams In fibre bushes through bulkheads, &c. Glands on fibre bushes

How are cables carried through decks In galv'd iron pipes bushed with fibre

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 none in spaces

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coats, or baggage under Bridge Deck only

If so, how are the lamp fittings and cable terminals specially protected strong cast iron covers

Where are the main switches and cut outs for these lights fitted In stokehold Fiddley

If in the spaces, how are they specially protected —

Are any switches or cut outs fitted in bunkers no

Cargo light cables, whether portable or permanently fixed Portable How fixed —

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel By large brass stud & socket

How are the returns from the lamps connected to the hull By 3/8" lined brass screws

Are all the joints with the hull in accessible positions yes

The installation is also supplied with a voltmeter and with an amperemeter, fixed on Switchboard

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas —

Are any switches, cut outs, 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 98 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 2500 megohms per statute mile after 24 hours' immersion in seawater.

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. H. Allen, Son & Co Ltd Bedford Electrical Engineers Date 10/10/12

COMPASSES.

Distance between dynamo or electric motors and standard compass 100 ft

Distance between dynamo or electric motors and steering compass 96 ft

The nearest cables to the compasses are as follows:—

A cable carrying	<u>32</u>	Ampere	<u>20</u>	feet from standard compass	<u>18</u>	feet from steering compass
A cable carrying	<u>2</u>	Ampere	<u>6</u>	feet from standard compass	<u>6</u>	feet from steering compass
A cable carrying	<u>1</u>	Ampere	<u>into</u>	feet from standard compass	<u>& into</u>	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 every course in the case of the standard compass and Nil degrees on every course in the case of the steering compass.

WILLIAM HAMILTON & CO., LIMITED
Alex W. Kennedy Builder's Signature. Date —

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 5/10/12

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

Committee's Minute **GLASGOW** 22 OCT 1912
Elec light

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

