

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 40371

Port of Glasgow Date of First Survey 6<sup>th</sup> July Date of Last Survey 8<sup>th</sup> Sept. No. of Visits 6  
 No. in 64017 on the Steel B.S. Lapwing Port belonging to London  
 Reg. Book 64017 Built at Paisley By whom Messrs Bow MacLachlan When built 1920  
 Owners Messrs The General Steam Navigation Co Owners' Address  
 Yard No. 386 Electric Light Installation fitted by Messrs Claud Hamilton & Co When fitted 1920

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

6 1/2 x 5 enclosed type high speed steam engine, direct coupled to a compound wound 100 hp lighting dynamo running at 480 R.P.M.

Capacity of Dynamo 90 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Engine Rm platform Whether single or double wire system is used double

Position of Main Switch Board Engine Rm platform having switches to groups 4 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 yes 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

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 163 16 CP. arranged in the following groups:—

A	18	lights each of	16	candle power requiring a total current of	9.0	Amperes
B	21	lights each of	16	candle power requiring a total current of	10.5	Amperes
C	12	lights each of	16	candle power requiring a total current of	6	Amperes
D	17	lights each of	16	candle power requiring a total current of	8.5	Amperes
E	31	lights each of	16	candle power requiring a total current of	15.6	Amperes

2 Mast head light with 1 lamps each of 32 candle power requiring a total current of 8.4 Amperes

2 Side light with 1 lamps each of 32 candle power requiring a total current of 8.4 Amperes

8 Cargo lights of 6 with 6 @ 16 candle power, whether incandescent or arc lights incandescent

If arc lights, what protection is provided against fire, sparks, &c.

no arc lamps fitted

Where are the switches controlling the masthead and side lights placed In Chart Room

## DESCRIPTION OF CABLES.

Main cable carrying	90	Amperes, comprised of	19	wires, each	.083"	S.W.G. diameter, .10	square inches total sectional area
Branch cables carrying	10.5	Amperes, comprised of	7	wires, each	.082"	S.W.G. diameter, .0146	square inches total sectional area
Branch cables carrying	15.6	Amperes, comprised of	7	wires, each	.064"	S.W.G. diameter, .0225	square inches total sectional area
Leads to lamps carrying	2	Amperes, comprised of	3	wires, each	.029"	S.W.G. diameter, .002	square inches total sectional area
Cargo light cables carrying	21	Amperes, comprised of	7	wires, each	.064"	S.W.G. diameter, .0225	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Copper wire insulated with pure vulcanized india rubber, taped  
Lead covered or armoured with steel wire

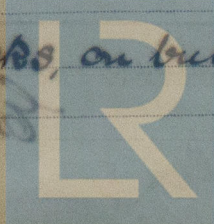
Joints in cables, how made, insulated, and protected

no joints

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances no 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 no

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 fixed to inner sides of decks, on bulkheads + beams, by means of brass or iron clips





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.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead cover or steel armour

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

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

How are cables carried through beams Lead bushes through bulkheads, &c. W.T. Flanges.

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

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

If so, how are they protected Cast Iron guards.

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 Cast Iron guards.

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

If in the spaces, how are they specially protected no.

Are any switches or fuses 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 —

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 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.

For **CLAUD HAMILTON, Limited.**

Electrical Engineers

Date 21-Sept-1920

COMPASSES.

Distance between dynamo or electric motors and standard compass 69 feet

Distance between dynamo or electric motors and steering compass 56 feet

The nearest cables to the compasses are as follows:—

	Ampères	feet from standard compass	feet from steering compass
A cable carrying <u>8.5</u>	<u>16</u>	<u>20</u>	<u>20</u>
A cable carrying <u>3.0</u>	<u>3</u>	<u>3</u>	<u>3</u>
A cable carrying			

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

standard compass and nil

degrees on any.

degrees on any. course in the case of the steering compass.

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.

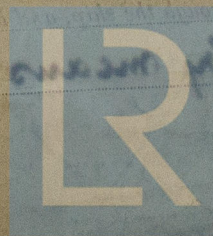
Elec. Light.

J. B. Rankin

Surveyor to Lloyd's Register of Shipping.

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