

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17155.

Port of Greenock Date of First Survey 18-4-17 Date of Last Survey 27-6-17 No. of Visits 20  
 No. in Reg. Book on the Iron or Steel Steamer "Maikar" Port belonging to Liverpool  
 Built at Mr Glasgow By whom James W When built 1917  
 Owners Liverpool Owners' Address Liverpool  
 Yard No. 695 Electric Light Installation fitted by H. J. Robertson Esq When fitted 1917

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two dynamos of Compound wound multipolar (4 pole) type each dynamo coupled direct to a vertical engine having single cylinder 8" dia by 4" stroke @ 275 revs  
 Capacity of Dynamos each 150 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamos fixed Engine room starting platform Whether single or double wire system is used Double wired  
 Position of Main Switch Board " near dynamos having switches to groups A, B, C, D, E, F, G of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each No Auxiliary Switchboards

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 and constructed to fuse at an excess of 60 per cent over the normal current

Are all fuses 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 fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 174 arranged in the following groups:— 1 workshop motor & 2 arc lamps & search & regulator 31-12" fam.

A lights each of candle power requiring a total current of Amperes

B lights each of candle power requiring a total current of Amperes

C lights each of candle power requiring a total current of Amperes

D lights each of candle power requiring a total current of Amperes

E lights each of candle power requiring a total current of Amperes

Mast head light with lamps each of candle power requiring a total current of Amperes

Side light with lamps each of candle power requiring a total current of Amperes

Cargo lights of candle power, whether incandescent or arc lights

If arc lights, what protection is provided against fire, sparks, &c. Double enclosure globe & strong hexagon lamp

Where are the switches controlling the masthead and side lights placed In Bridge wheel house

## DESCRIPTION OF CABLES.

Main cable carrying 150 Amperes, comprised of 37 wires, each 15 S.W.G. diameter, .151 square inches total sectional area

Branch cables carrying 35.5 Amperes, comprised of 19 wires, each 18 S.W.G. diameter, .0344 square inches total sectional area

Branch cables carrying 17.4 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .0225 square inches total sectional area

Leads to lamps carrying .6 Amperes, comprised of 1 wires, each 17 S.W.G. diameter, .00246 square inches total sectional area

Cargo light cables carrying 3.6 Amperes, comprised of 119 wires, each 38 S.W.G. diameter, .00322 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

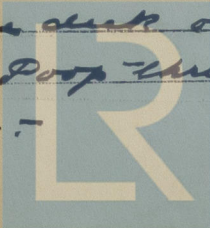
Pure india rubber then vulcanising india rubber, rubber coated tape, the whole vulcanised together, taped & lead covered throughout the accommodation & rooms, other parts galv wire armoring.

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 joints

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 Forward under bridge deck on wood panels & for turn deck on girder beam, aft to Prop "this" engine room tunnel, galvanized wire armour.



Lloyd's Register Foundation

005282-005289-0006 2



and at each position where a cable is branched or reduced in size yes and to each lamp circuit yes

A - Engine room	41	lights of 16 c/p requiring a total current of	24.6 amperes
Motor		" " " "	47. -
C Engineers rooms	23	" " " "	17.4
9 - Fans		12" " " "	
D Deck	20	" " 16 c/p " " "	
	1	" " 8 " " " "	12.3
E Saloon & Stairs	36	" " 16 " " " "	
	5	" " 8 " " " "	35.5
	5	" " 32 " " " "	
	1	Morse C-42 " " " "	
	12 - Fans	12" " " "	
F Wireless Circuit		" " " "	
G aft Cargo	21	lights of 16 c/p " " "	15. -
Are	1	" " 1000 c/p " " "	12.6
G' Forward Cargo	21	lights of 16 c/p " " "	10. -
Are	1	" " 1000 c/p " " "	12.6
G <sup>2</sup> Projector	1	Search C- for Camels. " " "	10. -
		" " " "	60

Branch cables carrying 24.6 amperes, comprised of

Branch cables carrying 17.4 Amperes, comprised of 4 wires each 16 S W G diameter 1.015 square inches total sectional area

29720-6826001382200



**DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.**

Are they in places always accessible yes except in Cargo spaces forward

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Lead covered or  
Armoured wire in galvanized iron pipes

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

What special protection has been provided for the cables near boiler casings Armoured & Braided

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

How are cables carried through beams In Lead bushes through bulkheads, &c. W. J. Glauco

How are cables carried through decks In galv<sup>d</sup> iron pipes

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 Armoured with galv iron wire

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 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 2 amperemeters yes, fixed on Bulkhead

**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.

A. J. Robertson & Co. Electrical Engineers Date 25 July 1917

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 100 Feet

Distance between dynamo or electric motors and steering compass 100 Feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>12</u>	<u>6</u>	<u>10</u>	<u>10</u>
<u>1.2</u>	<u>6</u>	<u>6</u>	<u>6</u>
<u>3</u>	<u>into</u>	<u>into</u>	<u>into</u>

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.

**GENERAL REMARKS.**

The fitting of the wires in this steamer is as stated in this report, and appears to be in accordance with the Committee's requirements.

It is submitted that this vessel is eligible for

THE RECORD. Elec. light.

James Jones Builder's Signature. Date 4<sup>th</sup> August 1917

Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 14 AUG 1917

Elec. Light



© 2020 Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

16.1.10—Transfer.

13/8/17