

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 39259

Port of Glasgow Date of First Survey 15. 9. 19 Date of Last Survey 2. 10. 19 No. of Visits 4
 No. in on the Iron or Steel S.S. Harmodius Port belonging to Liverpool
 Reg. Book Built at Irvine By whom Messrs The Ayrshire Dock Co When built 1919
 Owners Messrs Velford Grier & Co When fitted 1919
 Yard No. 476 Electric Light Installation fitted by Messrs Velford Grier & Co

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Enclosed forced lubrication engine direct coupled to protected type compound wound multipolar dynamo.
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Starboard side engine room Whether single or double wire system is used double
 Position of Main Switch Board Beside dynamo having switches to groups 6 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 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 162 arranged in the following groups:—
 A 24 lights each of 16 candle power requiring a total current of 12 Amperes
 B 35 lights each of 16 candle power requiring a total current of 18 Amperes
 C 63 lights each of 16cp or 30 watt candle power requiring a total current of 26 Amperes
 D 31 lights each of 16 candle power requiring a total current of 16 Amperes
 E 9 lights each of various candle power requiring a total current of 7 Amperes
2 Mast head light with 1 lamp each of 32 candle power requiring a total current of 2 Amperes
2 Side light with 1 lamp each of 32 candle power requiring a total current of 2 Amperes
5 Cargo lights of 96 candle power, whether incandescent or arc lights Incandescent
 If arc lights, what protection is provided against fire, sparks, &c. No arc lights fitted

Where are the switches controlling the masthead and side lights placed chart room

DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .093 square inches total sectional area
 Branch cables carrying 12 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .012 square inches total sectional area
 Branch cables carrying 18 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area
 Leads to lamps carrying 3 Amperes, comprised of 1 wires, each 17 S.W.G. diameter, .002 square inches total sectional area
 Cargo light cables carrying 3 Amperes, comprised of 1 wires, each 14 S.W.G. diameter, .005 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

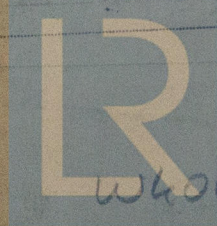
Vulcanized India Rubber taped & braided protected with galvanised iron wire armour then braided & compounded over all.

Joints in cables, how made, insulated, and protected none

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances none 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

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 clipped to underside of decks, all beams are bored & cables fed through.



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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? braided

What special protection has been provided for the cables near galley 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 + braided

How are cables carried through beams? bored holes through bulkheads, &c. watertight + packed glands

How are cables carried through decks? galvanised steel 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? armoured

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? last W.T. 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.

COMPASSES.

Distance between dynamo or electric motor and standard compass 20 ft to Wireless Motor

Distance between dynamo or electric motor and steering compass 20 ft to Wireless Motor

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
15	20	20	20
1	3	3	3
A cable carrying	Amperes	feet from standard compass	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 0 degrees on any course in the case of the standard compass and 0 degrees on any course in the case of the steering compass.

D. McCall General Manager Builder's Signature Date 14-11-19

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. 20/11/19 J. Stanley Rankin Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 18 NOV 1919

Elec. Light



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