

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 3942H

Port of Glasgow Date of First Survey 15/10/19 Date of Last Survey 27/11/19 No. of Visits 5
 No. in Reg. Book on the Steel A.M. Rescue Ldg "ST. KITTS" Port belonging to London
 Built at Port Glasgow By whom Mr. Murdoch Murray & Co. When built 1919
 Owners The Admiralty Owners' Address London
 Yard No. 295 Electric Light Installation fitted by Mr. Haddock & Co. Ltd. When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

1-20 Horse Power, DeLaval Steam Turbine Dynamo, Type E.D. 2000, R.P.M.
on Cast-Iron Bedplate. Dynamo Compound Wound.
 Capacity of Dynamo 125 Amperes at 105 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine Room Whether single or double wire system is used Double
 Position of Main Switch Board In Engine Room, near Dynamo, having switches to groups A, B, C and D, of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each A:- Space Forward, 5 Circuits. B:- Navigation, in Wheelhouse, 10 circuits. C:- Engine Room, 5 circuits. D:- Clusters, 2 Circuits.
 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
Yes, 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 86 arranged in the following groups:—
 A Forward:- 21 lights each of 16 (20 watt) candle power requiring a total current of 4.2 Amperes
 B Navigation:- 11 lights each of 8, 16, 32 candle power requiring a total current of 10.0 Amperes
 C Engine Room:- 38 lights each of 20 watt and 16 candle power requiring a total current of 17.0 Amperes
 D Clusters:- 16 lights each of 32 candle power requiring a total current of 19.2 Amperes
 E lights each of candle power requiring a total current of Amperes
2 Mast head light with 1 lamp each of D.F. 32 candle power requiring a total current of 1.2 Amperes
2 Side light with 1 lamp each of D.F. 32 candle power requiring a total current of 1.2 Amperes
2 Cargo lights of 8 lamps of 32 candle power, whether incandescent or arc lights Incandescent
 If arc lights, what protection is provided against fire, sparks, &c. None in Vessel
 Where are the switches controlling the masthead and side lights placed Wheel House

DESCRIPTION OF CABLES.

Main cable carrying 50 Amperes, comprised of 37 wires, each 16 S.W.G. diameter, .1176 square inches total sectional area
 Branch cables carrying 19 Amperes, comprised of 19 wires, each 17 S.W.G. diameter, .046 square inches total sectional area
 Branch cables carrying 10 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area
 Leads to lamps carrying 1 Amperes, comprised of 1 wires, each 17 S.W.G. diameter, .0024 square inches total sectional area
 Cargo light cables carrying 8 Amperes, comprised of 3 wires, each 18 S.W.G. diameter, .0053 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure Rubber, Vulcanized Rubber, Taped and Lead Covered.
Admiralty Pattern.

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 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

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 In G.I. Tube through Bunker, Perforated Steel Trays in Storehold and Engine, Lead Covered in Accommodation.

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 Steel Tubes

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

What special protection has been provided for the cables near boiler casings Lead covered on Snags

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

How are cables carried through beams Lead Bushes through bulkheads, &c. Packing Glands

How are cables carried through decks Steel Tubes, Flanged on Deck, Jam Nuts, Packing Glands

Are any cables run through coal bunkers Yes or cargo spaces No or spaces which may be used for carrying cargo, stores, or baggage No

If so, how are they protected In Iron Tube

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

Cargo light cables, whether portable or permanently fixed Portable How fixed A.P. 3949, Switch and Plug

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 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 2500 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.

Haddow & Co Ltd Glasgow Electrical Engineers Date 29.11.19

COMPASSES.

Distance between dynamo or electric motors and standard compass 80 feet

Distance between dynamo or electric motors and steering compass 75 feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
10	10	5	
12.6	20	15	

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 _____ degrees on _____ course in the case of the standard compass and _____ degrees on _____ course in the case of the steering compass.

MURDOCH & MURRAY, LIMITED.

M. Mc Gregor Builder's Signature. Date 10 Dec 1919

GENERAL REMARKS.

This installation has been fitted on board under special survey. Tested under full working conditions in presence of an Admiralty Inspecting Officer & found satisfactory.

It is submitted that this vessel is eligible for

THE RECORD ELEC LIGHT 11/1/20
GLASGOW 30 DEC 1919
Elec. Light

J Stanley Rankin
Surveyor to Lloyd's Register of Shipping.



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Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

23.12.19

150116—Transfer.