

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17326.

Port of Greenock Date of First Survey 29th May, 1918, Date of Last Survey 1st July, 1918, No. of Visits 16.
 No. in on the Iron or Steel S.S. Ardgowan Port belonging to Greenock
 Reg. Book 126 Sup. Built at Port Glasgow By whom Wm Hamilton & Co When built 1918
 Owners "Ard" Steamers, Ltd. Owners' Address Greenock
 Yard No. 30 Electric Light Installation fitted by Sunderland Forge & Eng Co Ltd. When fitted 1918

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Multipolar Compound wound. direct coupled to Engine of
Single Cylinder double acting type
 Capacity of Dynamo 70 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Engine Rm. Both Platform & side Whether single or double wire system is used double
 Position of Main Switch Board close to Dynamo having switches to groups SIX of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each In Chart Room with nine switches for navigation
Lights, compasses, telegraphes etc.

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

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 no 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 134 @ 16^{1/2} arranged in the following groups:—

A Poop	18	lights each of	16	candle power requiring a total current of	10.0	Amperes
B Saloon	16	lights each of	16	candle power requiring a total current of	9.1	Amperes
C Engine Rm & Eng'rs	45	lights each of	16	candle power requiring a total current of	25.2	Amperes
D Navigation	25	lights each of	16	candle power requiring a total current of	14.0	Amperes
E Cargo	30	lights each of	16	candle power requiring a total current of	16.8	Amperes
F Wireless						
2 Mast head light with	1	lamps each of	32	candle power requiring a total current of	25.0	2.24 Amperes
2 Side light with	1	lamps each of	32	candle power requiring a total current of	2.24	Amperes
Six		Cargo lights of	five - 16 ^{1/2}	candle power, whether incandescent or arc lights	incandescent	

If arc lights, what protection is provided against fire, sparks, &c. none fitted

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

DESCRIPTION OF CABLES.

Main cable carrying	70	Amperes, comprised of	19	wires, each	17	S.W.G. diameter,	.046	square inches total sectional area
Branch cables carrying	25.2	Amperes, comprised of	7	wires, each	16	S.W.G. diameter,	.022	square inches total sectional area
Branch cables carrying	14.0	Amperes, comprised of	7	wires, each	18	S.W.G. diameter,	.0125	square inches total sectional area
Leads to lamps carrying	2.5	Amperes, comprised of	1	wires, each	18	S.W.G. diameter,	.0018	square inches total sectional area
Cargo light cables carrying	2.5	Amperes, comprised of	7	wires, each	21 ^{1/2}	S.W.G. diameter,	.0049	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

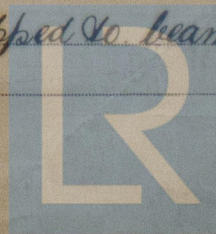
Mains & Machinery Spaces - Pure & Valve I.R. - taped, Vulcanized then armoured & braided
Accommodation Spaces - do - then lead covered.

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 - 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 Armoured & braided cables dipped to beams



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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 Armoured & Braided

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

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

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

How are cables carried through beams Holes bushed with Giltine through bulkheads, &c. W/G Glands

How are cables carried through decks W/G Deck Glands

Are any cables run through coal bunkers Yes or cargo spaces Yes or spaces which may be used for carrying cargo, stores, or baggage Yes

If so, how are they protected Armoured & Braided

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 an amperemeter Yes, fixed Main 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.

Electrical Engineers Date Director

COMPASSES.

Distance between dynamo or electric motors and standard compass about 90 ft

Distance between dynamo or electric motors and steering compass 86 ft

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
14.0	8	8	8
56	7	led into	led into
56	led into	4	4

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

James Crawford Bz. Builder's Signature. Date 31st Aug 1918

GENERAL REMARKS.

The fitting of the wires in this vessel are as stated in this report and appear to be in accordance with the Committee's requirements.

It is submitted that this vessel is eligible for THE RECORD. ELEC. LIGHT

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

Committee's Minute GLASGOW 6 AUG 1918
Elec. Light