

THU. SEP. 30 1920

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17706.

Port of Greenock. Date of First Survey 3<sup>rd</sup> Aug. 1920 Date of Last Survey 10<sup>th</sup> Sept. 1920 No. of Visits 18.  
 No. in Reg. Book on the Iron Steel S.S. "MAUDIE" Port belonging to Trinity.  
 Built at PT. Glasgow By whom Lithgow & Co When built 1910-9.  
 Owners Aktieselskabet, Havn Owners' Address — When fitted 1920.  
 Yard No. 725 Electric Light Installation fitted by Burnett & Rutherford.

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One Combined Coupled plant  $6\frac{1}{2} \times 6$  open type Vertical Engine / No. 39115  
 coupled direct to Compound Wound Dynamo No. 104513 running at 360 r.p.m.  
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed Main Platform Engine Room Whether single or double wire system is used Double  
 Position of Main Switch Board Near Dynamo having switches to groups seven of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Crews' Quarters, Saloon, Navigation,  
Engine Room, Engineers Quarters, Clusters, & Wireless.

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 25 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 131 arranged in the following groups:—

Total number of lights provided for						
A	25	lights each of	16	candle power requiring a total current of	15	Amperes
B	20	lights each of	16	candle power requiring a total current of	12	Amperes
C	25	lights each of	16	candle power requiring a total current of	15	Amperes
D	14	lights each of	16	candle power requiring a total current of	10	Amperes
E	24	lights each of	16	candle power requiring a total current of	15	Amperes
F	20	" " "	16	candle power requiring a total current of	12	"
2	Mast head light with	1	lamps each of	32	candle power requiring a total current of	2.4 Amperes
2	Side light with	1	lamps each of	32	candle power requiring a total current of	2.4 Amperes
5	Cargo lights of	80	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 Chartroom.

## DESCRIPTION OF CABLES.

Main cable carrying	100	Amperes, comprised of	34	wires, each	16	S.W.G. diameter, .1176	square inches total sectional area
Branch cables carrying	12	Amperes, comprised of	4	wires, each	18	S.W.G. diameter, .0125	square inches total sectional area
Branch cables carrying	10	Amperes, comprised of	4	wires, each	18	S.W.G. diameter, .0125	square inches total sectional area
Leads to lamps carrying	3	Amperes, comprised of	1	wires, each	16	S.W.G. diameter, .003	square inches total sectional area
Cargo light cables carrying	3	Amperes, comprised of	1	wires, each	16	S.W.G. diameter, .003	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

In accommodation cables are protected by pure & vulcanised india rubber, taped and vulcanised together, thereafter served with lead covering. In holds, engine Room etc cables are armoured with galvanised iron wires.  
 Joints in cables, how made, insulated, and protected No joints in ship, extension boxes used where necessary.

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 Clipped to fore & aft beams and to deck  
All armoured cables



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

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

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

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

How are cables carried through beams through lead ferrules through bulkheads, &c. W. I. glands.

How are cables carried through decks Iron deck tubes, flanged & bolted.

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 —

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 Mainmast Ebbord

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 2000 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.

Samuel & Fisher for B Electrical Engineers Date 20<sup>th</sup> Sept., 1920  
W. Senne & Sons

COMPASSES.

Distance between dynamo or electric motors and standard compass 200 feet

Distance between dynamo or electric motors and steering compass 200 feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
6	one	one	one
1.2	four	two	two
8.0	ten	twelve	twelve

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.

LITHGOWS LIMITED.

John Muirhead Builder's Signature. Date 22<sup>nd</sup> Sept. 1920

GENERAL REMARKS.

The above Installation has been fitted in a satisfactory manner. The workmanship and materials, as far as can be seen, are sound and good and proved satisfactory under working conditions.

It is submitted that this vessel is eligible for THE RECORD. Elee Lt Rell 2/10/20

W. Lane Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Elec. Light.



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