

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 30999

Port of Hull Date of First Survey 21/3/19 Date of Last Survey 29.3.19 No. of Visits 7
 No. in on the Iron or Steel Admiralty tug SS "St Botolph" Port belonging to
 Reg. Book 25184 Built at Hessle By whom Messrs Livingston & Cooper When built 1919
 Owners The Admiralty Owners' Address
 Yard No. 185 Electric Light Installation fitted by C. A. Hyde When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Turbine direct drive.

Capacity of Dynamo 125 Amperes at 105 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 Starboard Side having switches to groups A. B. C. of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each lights and groups of lights provided with switches as required.

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-oxidisable 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 88 arranged in the following groups:—

A	Navigation	lights each of	32 & 16	candle power requiring a total current of	7.5	Amperes
B	Engine Room	lights each of	16	candle power requiring a total current of	11.5	Amperes
C	Aft lighting	lights each of	16	candle power requiring a total current of	6.5	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
2	Mast head light with	1 lamps each of	32	candle power requiring a total current of	2	Amperes
2	Side light with	1 lamps each of	32	candle power requiring a total current of	2	Amperes
2 - 6lt.	Cargo lights of		32	candle power, whether incandescent or arc lights	incandescent	

If arc lights, what protection is provided against fire, sparks, &c. ✓

Where are the switches controlling the masthead and side lights placed Wheelhouse.

DESCRIPTION OF CABLES.

Main cable carrying	150	Amperes, comprised of	37	wires, each	15	S.W.G. diameter,	.15	square inches total sectional area
Branch cables carrying	34	Amperes, comprised of	7	wires, each	18	S.W.G. diameter,	.0125	square inches total sectional area
Branch cables carrying	20	Amperes, comprised of	3	wires, each	18	S.W.G. diameter,	.0053	square inches total sectional area
Leads to lamps carrying	9.8	Amperes, comprised of	1	wires, each	17	S.W.G. diameter,	.0025	square inches total sectional area
Cargo light cables carrying	20	Amperes, comprised of	3	wires, each	18	S.W.G. diameter,	.0053	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Indiarubber, braided and lead covered cables.

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 — 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 steel tubes & perforated sheet plate

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 *lead sheathed*

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

What special protection has been provided for the cables near boiler casings *lead sheathed*

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

How are cables carried through beams *lead bushed* through bulkheads, &c. *water tight glands*

How are cables carried through decks *steel tubes*

Are any cables run through coal bunkers *yes* or cargo spaces *yes* or spaces which may be used for carrying cargo, stores, or baggage *no*

If so, how are they protected *in steel tubes*

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 *Main Switch Board*

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.

C. W. Hyde

Electrical Engineers

Date

COMPASSES.

Distance between dynamo or electric motors and standard compass *75 ft.*

Distance between dynamo or electric motors and steering compass *75 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying *20* Amperes *10'* feet from standard compass *3'* feet from steering compass

A cable carrying — Amperes — feet from standard compass — feet from steering compass

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 *nil* degrees on *yes* course in the case of the

standard compass and *nil* degrees on *any* course in the case of the steering compass.

FOR LIVINGSTONE & COOPER LTD.

Builder's Signature.

Date

28th Apr 1920

GENERAL REMARKS.

The materials & workmanship are good in completion. The installation was tried under full load with satisfactory results. The work was carried out in accordance with the Admiralty specification.

It is submitted that this vessel is eligible for

THE RECORD, ELEC. LIGHT.

1844 6/5/20

[Signature]

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.