

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8306

Port of Belfast Date of First Survey 23rd Nov. 1919 Date of Last Survey 1st March 1920 No. of Visits 14  
 No. in on the Iron or Steel S.S. Maine Port belonging to  
 Reg. Book Belfast By whom Harland & Wolff L<sup>3</sup> When built 1920  
 Owners Atlantic Transport Co. Ltd. Agents' Address London  
 Yard No. 565 Electric Light Installation fitted by Harland & Wolff L<sup>3</sup> When fitted 1920

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 Enclosed forced lubrication, single cylinder engines + dynamos with Cylinder 5 1/2" x 5" Stroke, Speed 520 R.P.M.

Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous  
 Where is Dynamo fixed in Engine Room Whether single or double wire system is used Double  
 Position of Main Switch Board in Engine Room having switches to groups a, b, c, d, e, f of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each -----

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 187 + 2 1/2 Watt Lamps arranged in the following groups:—

A Navigation	5 lights each of 32 CP 8 L <sup>3</sup> each of 8	candle power requiring a total current of	9.6	Amperes
B Cabin + crew etc	108 lights each of 25	candle power requiring a total current of	25.2	Amperes
C Engines + Boilers	33 lights each of 27	candle power requiring a total current of	10.0	Amperes
D Cargo Forward	18 lights each of 16 CP + 1 of 1000	candle power requiring a total current of	13.64	Amperes
E Cargo Aft	12 lights each of 16 CP + 1 of 1000	candle power requiring a total current of	10.76	Amperes
F Wireless	2 Mast head lights with 1 lamp each of 32	candle power requiring a total current of	2.4	Amperes
	2 Side lights with 1 lamp each of 32	candle power requiring a total current of	2.4	Amperes
	5 Cargo lights of 96	candle power, whether incandescent or arc lights	Incandescent	
	2 1/2 Watt " lanterns of 1000	" " " " " "	" " " " " "	

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

Where are the switches controlling the masthead and side lights placed In wheelhouse.

## DESCRIPTION OF CABLES.

Main cable carrying	25	Amperes, comprised of	7	wires, each	16	S.W.G. diameter, .02201	square inches total sectional area
Branch cables carrying	2.5	Amperes, comprised of	1	wires, each	14	S.W.G. diameter, .005	square inches total sectional area
Branch cables carrying	8	Amperes, comprised of	1	wires, each	14	S.W.G. diameter, .005	square inches total sectional area
Leads to lamps carrying	1.8	Amperes, comprised of	1	wires, each	17	S.W.G. diameter, .00246	square inches total sectional area
Cargo light cables carrying	2.5	Amperes, comprised of	90	wires, each	36	S.W.G. diameter, .00407	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables and branch wiring exposed are of 600 megohm Grade C.M.A. vulcanized, india rubber armoured + white braided, also 1/4 A.P. 254 lead covered cable.

Joints in cables, how made, insulated, and protected joints made in W.I. Junction Boxes where exposed + porcelain junction boxes with iron protecting cover in Engine Room + on decks under cover.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Yes 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 Yes

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 direct to bulkhead + protected by armouring + braiding in Engine Room, Galley + Crews Quarters also lead covering 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

Run in Piping

What special protection has been provided for the cables near galleys 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

Lead or Fibre bushes used

through bulkheads, &c. } in Elands if 10% otherwise lead or Fibre bushes used.

How are cables carried through decks

In Iron deck pipes lashed or fitted with Eland.

Are any cables run through coal bunkers

no.

or cargo spaces

no.

or spaces which may be used for carrying cargo, stores, or baggage

no.

If so, how are they protected

no.

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

no.

Where are the main switches and fuses for these lights fitted

no.

If in the spaces, how are they specially protected

no.

Are any switches or fuses fitted in bunkers

no.

Cargo light cables, whether portable or permanently fixed

permanently

How fixed

Clipped direct to bulkhead.

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel

no.

How are the returns from the lamps connected to the hull

no.

Are all the joints with the hull in accessible positions

no.

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 motors and standard compass

114 ft. from Dynamo, 108 ft. from Wireless Rotary.

Distance between dynamo or electric motors and steering compass

119 " " 110 " " " "

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
9.6	10	6	
15.0	22	16	

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.

Builder's Signature.

Date

16/3/20

GENERAL REMARKS.

This installation is of good description, and has been fitted in accordance with the Rules

It is submitted that this vessel is eligible for

THE RECORD ELEC. LIGHT

18/4

22/3/20

R. J. Bevan

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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