

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8153

Port of Belfast Date of First Survey 24th May Date of Last Survey 17th June No. of Visits Six
 No. in Reg. Book 55-5 on the Tonnage of New Brunswick belonging to Liverpool
 Built at Belfast By whom Harland & Wolff L^{rs} When built 1919
 Owners Elder Dempster & Co L^{rs} Owners' Address Liverpool
 Card No. 55-5 Electric Light Installation fitted by Harland & Wolff L^{rs} When fitted 1919

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One enclosed forced lubrication, Single cylinder engine & dynamo, with cylinder $5\frac{1}{2} \times 5$ 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 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each ~~~~~

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

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 171 arranged in the following groups:—

Navigation	5 lights each of 32 C.P. + 5 lbs of 8.	candle power requiring a total current of	9.1	Amperes
Salon & Crew	{ 97 lights each of 16 C.P. 12 fans each 32	candle power requiring a total current of	19.4	Amperes
Engine + Boilers	32 lights each of 27 C.P.	candle power requiring a total current of	9.6	Amperes
Cargo	30 lights each of 16 C.P. & 2 lbs of 1000	candle power requiring a total current of	20.1	Amperes
Wireless	lights each of	candle power requiring a total current of	15.0	Amperes
2. Mast head light with	1 lamp each of	32 candle power requiring a total current of	2.4	Amperes
2. Side light with	lamps 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 " "	1000 C.P. each	" " " "	incandescent	

are lights, what protection is provided against fire, sparks, &c. ~~~~~

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

DESCRIPTION OF CABLES.

Main cable carrying	23.0 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	Amperes, comprised of	wires, each	S.W.G. diameter,	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.

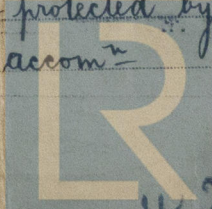
Cables + branch wiring exposed are 600 megohm b. l. a. grade vulcanised india rubber armoured + white braided also 1/17 A.P. 254 lead covered cable

Joints in cables, how made, insulated, and protected joints made in W.P. junction boxes on decks + porcelain junction boxes with iron protecting cover in Engine Room.

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 Cables clipped direct to bulkhead + protected by armoured braiding in Eng. Rm. galley + crews quarters + lead covered in accom^{ment}



Lloyd's Register
200-0168

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 *in piping*

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

What special protection has been provided for the cables near boiler casings *Armoured + braided cables.*

What special protection has been provided for the cables in engine room *Armoured + braided cables.*

How are cables carried through beams *Beams, lashed with lead or fibre through bulkheads, &c. In glands if W.T. otherwise lead or fibre*

How are cables carried through decks *In iron deck pipes, lashed or with gland*

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 *Armoured + braided cable in galvanised 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 *no*.

Cargo light cables, whether portable or permanently fixed *Permanently* How fixed *Armoured + braided cable clipped to bulkhead.*

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 *Sw'd in Eng. Rm*

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 *104 ft from Dynamo 14 ft from Wireless Rotary*

Distance between dynamo or electric motors and steering compass *109 ft " 17 ft " "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
6 - 0	10	5	
15 - 0	26	22	

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.

GENERAL REMARKS.

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

It is submitted that this vessel is eligible for

THE RECORD. ELEC. LIGHT.

Roll 31/7/19

R. F. Beaumont

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 11 JUL. 1919

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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