

JUN 4 1920

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8342

Port of Belfast Date of First Survey 1919 Nov. 12 Date of Last Survey 1920 May 14 No. of Visits 18
 No. in on the Iron or Steel S.S. "Port Curtis" Port belonging to London.
 Reg. Book Belfast By whom Workman, Clark & Co. Ltd., When built 1920
 Owners Commonwealth & Dominion Line Ltd., Owners' Address London.
 Yard No. 447 Electric Light Installation fitted by The Sunderland Forge & Eng. Co. Ltd. When fitted 1920

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two Compound Wound Multipolar Dynamos, each coupled to Vertical Open Type Single Cylinder Steam Engines on combined bedplate.

Capacity of Dynamos each 165 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 nine of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each 1 in Wheelhouse 11 switches
1 in Engine Room 13 switches.
1 " " " " 9 "

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 365 arranged in the following groups:—

A	80	lights each of	16	candle power requiring a total current of	19	Amperes
B	Wireless Installation				30	
C	108	lights each of	16	candle power requiring a total current of	21.6	Amperes
D	87 lts 1/500W .5/200 W	" "	16		32.4	
E	45	lights each of	16	candle power requiring a total current of	27	Amperes
F	45	" "	16		27	
G	Turbine T. Motor	lights each of		candle power requiring a total current of	61	Amperes
H	Lathe Motor				61	
J	Fan Motor	lights each of		candle power requiring a total current of	24	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 1 lamp each of	32		candle power requiring a total current of	2.4	Amperes
	90 Cargo lights of 16 C.P. and 2 H.C.P. lamps			candle power, whether incandescent or are lights	000 incandes cent.	

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 Wheelhouse on Bridge.

DESCRIPTION OF CABLES.

Main cable carrying 165 Amperes, comprised of 37 wires, each 14 S.W.G. diameter, .1824 square inches total sectional area
 Branch cables carrying 30 Amperes, comprised of 19 wires, each 20 S.W.G. diameter, .01899 square inches total sectional area
 Branch cables carrying 18.25 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .01246 square inches total sectional area
 Leads to lamps carrying 1.8 Amperes, comprised of 7 wires, each 25 S.W.G. diameter, .0021 square inches total sectional area
 Cargo light cables carrying 10 Amperes, comprised of 114 wires, each 38 S.W.G. diameter, .00319 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Tinned Copper Conductors, insulated with pure and vulcanised india rubber, taped and the whole vulcanised together & finished as follows:— In Accommodation, Lead Cvd. & braided.
In Machinery & Cargo Spaces, Lead Covered, Armoured and Braided.

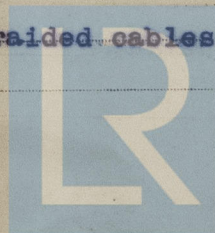
Joints in cables, how made, insulated, and protected

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 Lead Covered, Armoured and braided cables secured to beams by galvanised iron saddles and brass screws.



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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 Lead Covered, Armoured and Braided.

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

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

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

How are cables carried through beams Through holes bushed with fibre through bulkheads, &c. through brass W.T.glands

How are cables carried through decks " deck tubes made watertight.

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 Lead covered, armoured and braided.

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage yes

If so, how are the lamp fittings and cable terminals specially protected Glass Well Jar and strong brass guard

Where are the main switches and fuses for these lights fitted In Engine Room

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 Portable How fixed To heavy brass terminal fitted in cast iron boxes on deck

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 ² 2 voltmeters Yes and with ² 2 amperemeters Yes, fixed In Engine Room

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 2,500 megohms per statute mile at 60° Farhenheit 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.

The Sunderland Forge & Engineering Co. Ltd. Electrical Engineers Date May 1920

Director W. J. W. W.

COMPASSES.

Distance between dynamo or electric motors and standard compass 152 feet

Distance between dynamo or electric motors and steering compass 147 feet

The nearest cables to the compasses are as follows:—

Cable	Amperes	feet from standard compass	feet from steering compass
A cable carrying <u>7.7</u>	<u>6</u>	<u>6</u>	<u>6</u>
A cable carrying <u>0.2</u>	<u>3</u>	<u>3</u>	<u>3</u>
A cable carrying <u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>

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.

W. J. W. W. Builder's Signature. Date May 1920

GENERAL REMARKS.

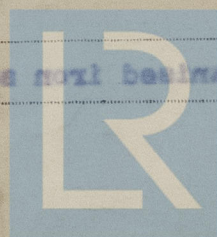
This installation is of good description, and has been fitted in accordance with the Rules

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

4/6/20

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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