

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 7901

Port of Belfast Date of First Survey Aug 15th 17 Date of Last Survey Jan 12th 18 No. of Visits 12
 No. in Reg. Book 889 on the Steel S.S.S. "Molitor" Port belonging to
 Built at Glasgow By whom Barclay Curle & Coy. Ltd. When built 1918
 Owners' Address Canadian Pacific Railway When fitted 1918
 Electric Light Installation fitted by Stanland & Wolff Ltd.

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Gas Lubrication Engines & Dynamos, with Cyls. 10" x 15" x 7" stroke, each having an
output of 74 K.W. when running at 450 R.P.M. 1.60 K.W. Dynamo direct coupled to
Oil Engine for use as Emergency Plant
 Capacity of Dynamo 740 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Emergency Sels in Engine Room Whether single or double wire system is used Single
 Position of Main Switch Board Emergency Sels in Engine Room having switches to groups I to XVIII of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Emergency Switchboard in Emergency Dynamo
room on Auming St. aft, with 10 switches and 12 fuses as stated below

Are cut outs 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
 Are all cut outs fitted in easily accessible positions Yes and constructed to fuse at an excess of 100 per cent over the normal current
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases Yes
 Are there permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit Yes
 If wire fuses are used

Total number of lights provided for 2171 arranged in the following groups :-

lights each of		candle power requiring a total current of	Amperes
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lights each of		candle power requiring a total current of	Amperes
lights each of		candle power requiring a total current of	Amperes
lights each of		candle power, whether incandescent or arc lights	Amperes
lights each of		Incandescent	Amperes

 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 In strong wood casing throughout accommodation
Lead covering & steel armouring & braided overall in deck spaces & galleys, and by
solid drawn steel tubes where exposed to weather.

DESCRIPTION OF CABLES.

Main cable carrying	740	Amperes, comprised of	291	wires, each	.092"	L.S.G. diameter,	1.195	square inches total sectional area
Branch cables carrying	200	Amperes, comprised of	37	wires, each	.092"	L.S.G. diameter,	.25	square inches total sectional area
Branch cables carrying	400	Amperes, comprised of	61	wires, each	.118"	L.S.G. diameter,	.644	square inches total sectional area
Leads to lamps carrying	2.4	Amperes, comprised of	3	wires, each	.036"	L.S.G. diameter,	.003	square inches total sectional area
Cargo light cables carrying	4.8	Amperes, comprised of	90	wires, each	.0076"	L.S.G. diameter,	.004	square inches total sectional area

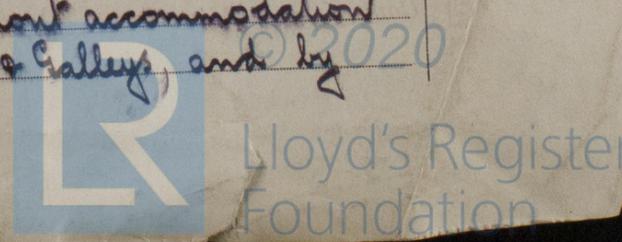
DESCRIPTION OF INSULATION, PROTECTION, ETC.

The cables throughout are of 2500.02 grade C.M.D. standard, the conductor is covered with 1 layer of pure rubber, 2 coats of vulcanising rubber, 1 layer of prepared tape, the whole vulcanised together and braided overall. In deck spaces & galleys the cables are protected by lead covering & steel armouring & braided overall. Soldered joints are made, insulated with pure rubber and prepared tapes, and protected by strong wood casing.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux 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 In strong wood casing throughout accommodation
Lead covering & steel armouring & braided overall in deck spaces & galleys, and by
solid drawn steel tubes where exposed to weather.

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RETAIN

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... Solid drawn Steel Tubes

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat... Lead covered steel armoured and braided overall

What special protection has been provided for the cables near boiler casings... Lead covered, steel armoured and braided overall

What special protection has been provided for the cables in engine room... Lead covered steel armoured and braided overall

How are cables carried through beams... In fibre lances through bulkheads, &c.

How are cables carried through decks... S.I. deck pipes lashed with fibre

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... Strong wood casing and Steel girders

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

If so, how are the lamp fittings and cable terminals specially protected... Strong C.I. fittings with C.I. guards

Where are the main switches and cut outs for these lights fitted... Switch Box in Passage outside Store Rooms

If in the spaces, how are they specially protected... No

Are any switches or cut outs fitted in bunkers... No

Cargo light cables, whether portable or permanently fixed... Permanently outside cargo hatches How fixed... In wood casing to Cargo couplers outside hatches

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel... By earth plate thru machine bedplate

How are the returns from the lamps connected to the hull... sweated to 3/8 turned brass scarfed screws

Are all the joints with the hull in accessible positions... Yes

The installation is... supplied with voltmeters and amperemeters fixed on Switchboards

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas

Are any switches, cut outs, 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 100 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 2500 megohms per statute mile after 24 hours' immersion in seawater.

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.

J. Johnston Electrical Engineers Date 8/1/18

COMPASSES.

Distance between dynamo or electric motors and standard compass 82 feet to nearest motor

Distance between dynamo or electric motors and steering compass 90 feet to nearest motor

The nearest cables to the compasses are as follows:—

A cable carrying	<u>32.1</u>	Amperes	<u>10</u>	feet from standard compass	<u>15</u>	feet from steering compass
A cable carrying	<u>100</u>	Amperes	<u>82</u>	feet from standard compass	<u>90</u>	feet from steering compass
A cable carrying	<u>100</u>	Amperes	<u>82</u>	feet from standard compass	<u>90</u>	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 all course in the case of the standard compass and nil degrees on all course in the case of the steering compass.

J. Johnston Builder's Signature. Date 8/1/18

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.

J.W.D. 19.1.18. Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REFORM FORM NO. 42