

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5918

Port of Belfast Date of First Survey April 6th Date of Last Survey 16th May No. of Visits 5
 No. in Reg. Book on the ~~Iron~~ Steel ss. "Dacare" Port belonging to Belfast
 Built at Belfast By whom Workman Black & Co., Ltd When built 1905
 Owners Clare & Tytler (Shipping) Ltd Owners' Address
 Yard No. 221 Electric Light Installation fitted by M. B. Allen, Son & Co., Ltd When fitted 1905

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine having cylinder 8" dia. x 9" stroke. Dynamo four pole, compound wound
 Capacity of Dynamo 150 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed on starting platform, starboard side
 Position of Main Switch Board on bulkhead near dynamo 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 -
 If cut outs 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 - 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits yes
 Are the cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 100 per cent over the normal current
 Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases yes
 Total number of lights provided for 258 arranged in the following groups :-
 A say 91 (Holds) lights each of 16 candle power requiring a total current of 55 Amperes
 B 42 (Mach. spaces) lights each of 16 candle power requiring a total current of 25 Amperes
 C 25 (Brew) lights each of 16 candle power requiring a total current of 14 Amperes
 D 76 (Accom) lights each of 16 candle power requiring a total current of 46 Amperes
 E cargo as below lights each of candle power requiring a total current of Amperes
 1 Mast head light with 1 lamp each of 32 candle power requiring a total current of 1.2 Amperes
 2 Side lights with 1 lamp each of 32 candle power requiring a total current of 2.4 Amperes
 4 Cargo lights each of 6 16 candle power, whether incandescent or arc lights Incandescent
 If arc lights, what protection is provided against fire, sparks, &c. -

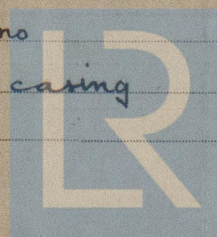
Where are the switches controlling the masthead and side lights placed in wheelhouse on Captain's Bridge

DESCRIPTION OF CABLES.

Main cable carrying 150 Amperes, comprised of 37 wires, each 15 L.S.G. diameter, .154 square inches total sectional area
 Branch cables carrying 25 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .0229 square inches total sectional area
13 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .0129
 Branch cables carrying 7 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .0073 square inches total sectional area
4 Amperes, comprised of 7 wires, each 22 L.S.G. diameter, .0043
 Leads to lamps carrying 3 Amperes, comprised of 1 wires, each 16 L.S.G. diameter, .0032 square inches total sectional area
 Cargo light cables carrying 3.6 Amperes, comprised of 145 wires, each 38 L.S.G. diameter, .0042 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

The conductor is covered with one layer of pure Para rubber, then two layers of vulcanizing rubber, the whole vulcanized together and finally taped & braided.
 Joints in cables, how made, insulated, and protected thoroughly soldered, insulated with pure rubber prepared tape, & varnished
 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



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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 none exposed to weather except on mast where they are in galvanized iron pipe
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat none near undue heat
 What special protection has been provided for the cables near boiler casings lead covered, sewed & spirally armoured with galvanized iron wires
 What special protection has been provided for the cables in engine room through bulkheads, &c. in fibre ferrules
 How are cables carried through beams in fibre ferrules
 How are cables carried through decks in galvanized iron pipes bushed with fibre
 Are any cables run through coal bunkers no or cargo spaces no or spaces which may be used for carrying cargo, stores, or baggage yes
 If so, how are they protected in strong wood casing
 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 cut outs for these lights fitted —
 If in the spaces, how are they specially protected —
 Are any switches or cut outs 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 Double wires
 How are the returns from the lamps connected to the hull Double wires
 Are all the joints with the hull in accessible positions —

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 installation is supplied with a voltmeter and with an amperemeter, fixed on main switch boards

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 600 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.

For W.H. Allen & Co. Ltd.
C.P. Miller

Electrical Engineers

Date 30/1/05

COMPASSES.

Distance between dynamo or electric motors and standard compass 106 feet
 Distance between dynamo or electric motors and steering compass 104 feet
 The nearest cables to the compasses are as follows:—

A cable carrying	Ampere	feet from standard compass	feet from steering compass
<u>23</u>	<u>20</u>	<u>16</u>	<u>16</u>
A cable carrying	Ampere	feet from standard compass	feet from steering compass
A cable carrying	Ampere	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 every course in the case of the standard compass and nil degrees on every course in the case of the steering compass.

PRO WORKMAN, CLARK & CO., LIMITED,

Builder's Signature.

Date 8th June 1905

GENERAL REMARKS.

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

R. J. B. Moulds

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

This installation appears to be fitted in accordance with the Rules
14/6/05

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.