

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5924

Port of Belfast Date of First Survey April 28th Date of Last Survey June 12th No. of Visits 8
 No. in Reg. Book on the Iron or Steel S.S. Zent Port belonging to Belfast
 Built at Belfast By whom Wolman Clark & Co Ltd When built 1905
 Owners Elsers & Fyffes (Shipping) Ltd Owners' Address _____
 Yard No. 222 Electric Light Installation fitted by W.D. Allen & Co Ltd When fitted 1905

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine having cylinders 7" dia^r x 6" stroke dynamo 4 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 above 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 260 arranged in the following groups:—

A	<u>Holds say 91</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>54</u>	Amperes
B	<u>Crew say 23</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>14</u>	Amperes
C	<u>Account say 33</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>20</u>	Amperes
D	<u>Engineers say 43</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>26</u>	Amperes
E	<u>Mach^s Spaces say 40</u> lights each of	<u>16</u>	candle power requiring a total current of	<u>24</u>	Amperes
	<u>1</u> Mast head light with <u>1</u> lamp each of	<u>32</u>	candle power requiring a total current of	<u>1.2</u>	Amperes
	<u>2</u> Side lights with <u>1</u> lamp each of	<u>32</u>	candle power requiring a total current of	<u>1.2</u>	Amperes
	<u>4</u> Cargo lights & each of <u>6</u>	<u>16</u>	candle power, whether incandescent or are lights	<u>incandescent</u>	

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

Where are the switches controlling the masthead and side lights placed in Wheelhouse on Bridge

DESCRIPTION OF CABLES.

Main cable carrying 150 Amperes, comprised of 37 wires, each 15 L.S.G. diameter, .1534 square inches total sectional area
 Branch cables carrying 23 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .0229 square inches total sectional area
 Branch cables carrying 13 Amperes, comprised of 7 wires, each 18 L.S.G. diameter, .0129 square inches total sectional area
 Leads to lamps carrying 7 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .0073 square inches total sectional area
 Leads to lamps carrying 3 Amperes, comprised of 1 wires, each 16 L.S.G. diameter, .0043 square inches total sectional area
 Cargo light cables carrying 3.6 Amperes, comprised of 145 wires, each 38 L.S.G. diameter, .0043 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

The conductor is insulated with one layer pure Para rubber, then two layers of vulcanizing rubber, the whole vulcanized together & finally taped & braided
Wires in machinery spaces, after vulcanizing, are lead covered served & spirally

Joints in cables, how made, insulated, and protected armoured with 9.7. wires
Thoroughly soldered, insulated with two layers pure rubber, two layers of 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 stray 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 *on masts they are in G. I. 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 & armoured with G. I. wire*

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

How are cables carried through beams *in fibre ferrules* through bulkheads, &c. *in fibre ferrules*

How are cables carried through decks *in G. I. pipes lashed to 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*

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 *cast iron fittings*

Where are the main switches and cut outs for these lights fitted *master controlling switches in Engineers entrance*

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

How are the returns from the lamps connected to the hull *Double wired*

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 switchboard*

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, SON & CO., LTD.

C. Hunter

Electrical Engineers

Date

24-VI-05

COMPASSES.

Distance between dynamo or electric motors and standard compass *100'*

Distance between dynamo or electric motors and steering compass *96'*

The nearest cables to the compasses are as follows:—

A cable carrying <i>23</i> Amperes	<i>22</i> feet from standard compass	<i>16</i> feet from steering compass
A cable carrying _____ Amperes	_____ feet from standard compass	_____ feet from steering compass
A cable carrying _____ Amperes	<i>All Double Wired</i> 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.

FOR WORKMAN, CLARK & CO., LIMITED,

W. Workman

Builder's Signature.

Date

29th June 1905

GENERAL REMARKS.

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

G. F. Bennett

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

Committee's Minute

It is submitted that this installation appears to be satisfactory.

Lloyd's Register Foundation

3.7.05

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.