

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6006

Port of Belfast Date of First Survey Nov. 16th Date of Last Survey Dec 14th No. of Visits 5
 No. in 1 on the Iron (Steel) Malakand Port belonging to Liverpool
 Reg. Book 6 Built at Belfast By whom Harland & Wolff When built 1905
 Owners W. H. Moskebank Owners' Address Liverpool
 Electric Light Installation fitted by W. H. Allen & Co. Ltd When fitted 1915

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 engines having cylinders 6" diam. x 5" stroke, two dynamos multi-polar type, compound wound
 Capacity of Dynamo 60 or 100 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 over dynamos 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 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 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 143 arranged in the following groups:—

A Accommodation <u>41</u> lights each of <u>16</u>	candle power requiring a total current of <u>24.6</u> Amperes
B Engine room <u>42</u> lights each of <u>16</u>	candle power requiring a total current of <u>25.2</u> Amperes
C Forecastle <u>6</u> lights each of <u>16</u>	candle power requiring a total current of <u>3.6</u> Amperes
D Poop <u>18</u> lights each of <u>16</u>	candle power requiring a total current of <u>10.8</u> Amperes
E cargo as below lights each of	candle power requiring a total current of
<u>2</u> Mast head lights 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>2</u> Amperes
<u>4</u> Cargo lights of each of <u>8</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. Two are lamps included in Suez Canal Plant

Totally enclosed in lanterns with glass sides protected by wire netting
 Where are the switches controlling the masthead and side lights placed in Chart House

DESCRIPTION OF CABLES.

Main cable carrying <u>60</u> Amperes, comprised of <u>19</u> wires, each <u>16</u> L.S.G. diameter, <u>.0624</u> square inches total sectional area
Branch cables carrying <u>22.8</u> Amperes, comprised of <u>19</u> wires, each <u>16</u> L.S.G. diameter, <u>.0229</u> square inches total sectional area
Branch cables carrying <u>25.2</u> Amperes, comprised of <u>19</u> wires, each <u>18</u> L.S.G. diameter, <u>.035</u> square inches total sectional area
Branch cables carrying <u>10.8</u> Amperes, comprised of <u>7</u> wires, each <u>18</u> L.S.G. diameter, <u>.0129</u> square inches total sectional area
Leads to lamps carrying <u>4</u> Amperes, comprised of <u>7</u> wires, each <u>22</u> L.S.G. diameter, <u>.0043</u> square inches total sectional area
Cargo light cables carrying <u>4.8</u> Amperes, comprised of <u>14</u> wires, each <u>38</u> L.S.G. diameter, <u>.0023</u> square inches total sectional area

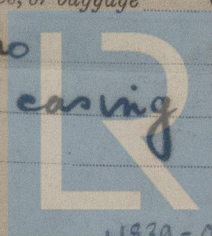
DESCRIPTION OF INSULATION, PROTECTION, ETC.

The conductor is insulated with 2 layers pure Para rubber, then one layer vulcanizing rubber, the whole vulcanized together & finally taped & braided wires in machinery spaces after vulcanizing are lead covered & spirally armoured with G. I. wires.
 Joints in cables, how made, insulated, and protected Thoroughly soldered & insulated with two layers pure rubber & two layers 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 —

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, saved & armoured with G.S. wires

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

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

How are cables carried through decks in G.S. pipes bushed with fine

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 wooden 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 screwed to yoke of magnet

How are the returns from the lamps connected to the hull soldered to 3/8" brass earth screws

Are all the joints with the hull in accessible positions yes

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

on ammeter, fixed on 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 2600 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. H. & Co. Ltd.

J. W. Parkinson Electrical Engineers

Date 16 Dec 05

COMPASSES.

Distance between dynamo or electric motors and standard compass 107 ft.

Distance between dynamo or electric motors and steering compass 110 ft.

The nearest cables to the compasses are as follows:—

A cable carrying 22.500 Amperes 24 feet from standard compass 24 feet from steering compass

A cable carrying The above is double wire feet from standard compass 8.55 feet from steering compass

A cable carrying 25.10 Amperes 81 feet from standard compass 8.01 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 Harland & Wolff Ltd.

Builder's Signature.

Date

20 Dec 1905

GENERAL REMARKS.

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

P. J. B. Smith
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

It is submitted that this installation appears to be satisfactory

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23.12.05

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.