

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 4576

Port of Belfast Date of First Survey 9th Dec Date of Last Survey Feb 15th 1896 No. of Visits 7
 No. in Reg. Book on the ~~Iron or Steel~~ Screw Steamer "Hyson" Port belonging to London
 Built at Belfast By whom Workman Clark & Co. Ltd When built 1896
 Owners China Mutual Steam Navigation Co. Ltd Owners Address _____
 Yard No. 123 Electric Light Installation fitted by W. C. Martin & Co. Glasgow When fitted 1896

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Direct acting engine, coupled to compound wound dynamo

Capacity of Dynamo 65 Amperes at 100 Volts, ~~either~~ continuous ~~alternating~~ current

Where is Dynamo fixed Starting Platform in Engine Room

Position of Main Switch Board Starting Platform having switches to groups 29, 30 & 27 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each none

If cut outs are fitted on main switch board to the cables of main circuit yes and on each auxiliary switch boards 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 50 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 all fitted on slate.

Total number of lights provided for 86 arranged in the following groups:—

A	<u>71</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>42.6</u>	Amperes
B	<u>12</u>	lights each of	<u>32</u>	candle power requiring a total current of	<u>14.4</u>	Amperes
C	<u>3</u>	lights each of	<u>64</u>	candle power requiring a total current of	<u>7.2</u>	Amperes
D		lights each of		candle power requiring a total current of		Amperes
E		lights each of		candle power requiring a total current of		Amperes
1		Mast head light with <u>double filament</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.4</u>	Amperes
2		Side lights with <u>double filament</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>4.8</u>	Amperes
		<u>4</u> Cargo lights of <u>3 lamps each</u>		candle power, either incandescent light		

If arc lights, what protection is provided against fire, sparks, &c. no arc lights.

Where are the switches controlling the masthead and side lights placed in Wheel House on Bridge Deck.

DESCRIPTION OF CABLES.

Main cable carrying 17.4 Amperes, comprised of 19 wires, each .18 L.S.G. diameter, .034 square inches total sectional area

Branch cables carrying .6 Amperes, comprised of 1 wires, each .16 L.S.G. diameter, .003 square inches total sectional area

Branch cables carrying - Amperes, comprised of - wires, each - L.S.G. diameter, - square inches total sectional area

Leads to lamps carrying .6 Amperes, comprised of 1 wires, each .16 L.S.G. diameter, .003 square inches total sectional area

Cargo light cables carrying 3.6 Amperes, comprised of 346 wires, each .40 L.S.G. diameter, .006 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure Rubber insulation taped braided & vulcanized, covered with tarred hemp & armoured with galvanised iron wire, and an outer coating of tarred tape

Joints in cables, how made, insulated, and protected no joints

Are all the joints of cables thoroughly soldered, resin only having been used as a flux no joints 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 none

How are the cables led through the ship, and how protected Through the alleyways & main & foreholds. In the main & foreholds the wires are enclosed in galvanised iron pipes, & also to mast & side lights. In the alleyways & Engine Room, Tunnel & Storehold, armoured cables with outer coating of tarred tape. In saloon, officers Rooms &c in wood casing.

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *all except branch going to forecabin.*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *armoured cables & galvanised iron pipes*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *armoured cables.*

What special protection has been provided for the cables near boiler casings *armoured cables.*

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

How are cables carried through beams *unarmoured wire in teakwood plugthrough bulkheads, &c. in galvanised iron tubes*

How are cables carried through decks *galv'd iron tubes*

Are any cables run through coal bunkers *not* cargo spaces *yes* or spaces which may be used for carrying cargo, stores, or baggage *yes*

If so, how are they protected *galvanised tubes & armoured cables*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *4 lamps in alleyways.*

If so, how are the lamp fittings and cable terminals specially protected *by iron shutters on teak back blocks*

Where are the main switches and cut outs for these lights fitted *distribution box in engine Room*

If in the spaces, how are they specially protected _____

Are any switches or cut outs fitted in bunkers *none*

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 _____

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 _____ an amperemeter, fixed _____

The copper used is guaranteed to have a conductivity of *98* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *2000* 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.

W. C. Martin & Co Electrical Engineers Date *Feb'y 19th 1896*

COMPASSES.

Distance between dynamo or electric motors and standard compass *120 ft.*

Distance between dynamo or electric motors and steering compass *120 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying <i>1.8</i> Amperes <i>about 8</i> feet from standard compass <i>8</i> feet from steering compass
A cable carrying _____ Amperes _____ feet from standard compass _____ feet from steering compass
A cable carrying _____ Amperes _____ 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 *each* course in the case of the standard compass and *nil* degrees on *each* course in the case of the steering compass.

WORKMAN, CLARK & CO., LIMITED,
Chas. E. Allen Builder's Signature Date *20th Feb'y 1896*

GENERAL REMARKS.

A Voltmeter & an Ammeter are fitted on the switch-board.

A. L. Jones

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

Committee's Minute

This installation appears to be in accordance with the Rules

J. The 2/19/96

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

