

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 5514

Port of Belfast Date of First Survey 17th Sept^r Date of Last Survey 8th Nov^r No. of Visits 6
 No. in Reg. Book on the Iron or Steel T.S.S. Keenan Port belonging to Liverpool
 Built at Belfast By whom Workman Clarke & Co. Ltd. When built 1902
 Owners China Mutual Ins. Co. Ltd. Owners' Address London
 Yard No. 191 Electric Light Installation fitted by Clarke Chapman & Co. Ltd. When fitted 1902

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One single cylinder double acting engine direct coupled to continuous current compound wound dynamo.

Capacity of Dynamo 200 Amperes at 65 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Engine room bottom platform midships.

Position of Main Switch Board Engine room 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 each light is provided with a switch fitted near to light.

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 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 yes, date tumbrow

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

A	<u>24</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>22</u>	Amperes
B	<u>26</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>24</u>	Amperes
C	<u>45</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>41.5</u>	Amperes
D	<u>2-15 Amp. arc</u>	lights each of	<u>3000</u>	candle power requiring a total current of	<u>30</u>	Amperes
E	<u>42</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>38.7</u>	Amperes
	<u>1</u>	Must head light with <u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>1.8</u>	Amperes
		Side <u>lights</u> with _____ lamps each of _____		candle power requiring a total current of _____		Amperes
	<u>7</u>	Cargo lights of each <u>6-16</u>		candle power, whether incandescent or arc lights <u>incandescent</u>		

If arc lights, what protection is provided against fire, sparks, &c. Are enclosed in hexagonal lanterns.

Where are the switches controlling the masthead and side lights placed in steering house aft.

DESCRIPTION OF CABLES.

Main cable carrying 158 Amperes, comprised of 250 wires, each 20 L.S.G. diameter, .255 square inches total sectional area

Branch cables carrying 30 Amperes, comprised of 7 wires, each 14 L.S.G. diameter, .0348 square inches total sectional area

Branch cables carrying 22 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .0222 square inches total sectional area

Leads to lamps carrying 9 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area

Cargo light cables carrying 5.7 Amperes, comprised of 7 wires, each 20 L.S.G. diameter, .007 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

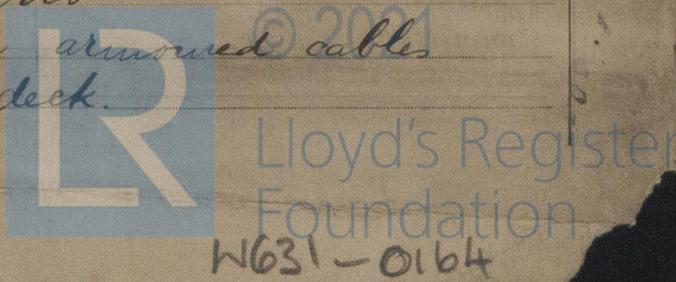
Vulcanised rubber taped and braided and lead covered overall and where exposed steel armoured over the lead covering.

Joints in cables, how made, insulated, and protected No joints except mechanical ones.

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, no

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 Lead covered and armoured cables secured by brass clips fixed close up to deck.



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible? *no*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *lead covered and steel armoured*

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

What special protection has been provided for the cables near boiler casings *lead covered & steel armoured*

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

How are cables carried through beams *in bushes* through bulkheads, &c. *in glands*

How are cables carried through decks *in galvanizid iron watertight deck tubes*

Are any cables run through coal bunkers *yes* or cargo spaces *yes* or spaces which may be used for carrying cargo, stores, or baggage *yes*

If so, how are they protected *lead covered & armoured and fixed close up to deck*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *yes cage spaces only*

If so, how are the lamp fittings and cable terminals specially protected *Terminals in special C. I. boxes. Fittings portable*

Where are the main switches and cut outs for these lights fitted *in cast iron boxes*

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 C. I. watertight boxes*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *Double wire system*

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 *now* supplied with a voltmeter and *also* an amperemeter, fixed *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 *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.

For **CLARKE, CHAPMAN & Co. LTD.**

Electrical Engineers

Date *Nov 17th 1902*

COMPASSES.

Distance between dynamo or electric motors and standard compass *142 ft.*

Distance between dynamo or electric motors and steering compass *135 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>9</i>	<i>3</i>	<i>5</i>	<i>5</i>

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 *✓* course in the case of the standard compass and *Nil* degrees on *✓* course in the case of the steering compass.

PRO WORKMAN, CLARK & CO., LIMITED

W. Hancock Builder's Signature.

Date *19th November 1902*

GENERAL REMARKS.

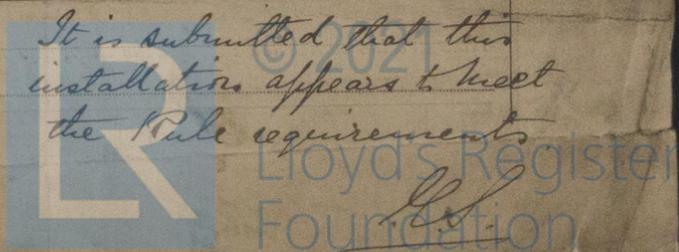
This installation is of good description, and has been fitted in accordance with the Rules.

R. J. Pennington

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

Committee's Minute

It is submitted that this installation appears to meet the Rule requirements.



24.11.02

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.