

REPORT ON ELECTRIC LIGHTING INSTALLATION, No. 5559

Port of *Belfast* Date of First Survey *15 Jan 1903* Date of Last Survey *20 Feb 1903* No. of Visits *8*
 No. in Reg. Book *33* on the *1st* of *May* *1903* Port belonging to *Liverpool*
 Built at *Belfast* By whom *Workman Electric Light Co.* When built *1903*
 Owners *Mr. T. J. Harrison* Owners' Address *Liverpool*
 Yard No. *195* Electric Light Installation fitted by *W. H. Allen & Co., Ltd.* When fitted *1903*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

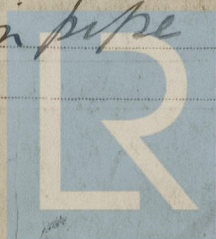
One single cylinder engine coupled direct to a triplex dynamo
 Capacity of Dynamo *150* Amperes at *62* Volts, whether continuous or alternating current *Continuous*
 Where is Dynamo fixed *on bottom platform starboard side aft. engine room*
 Position of Main Switch Board *beside dynamo* having switches to groups *ABC* 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 when double wired*
 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 *162* arranged in the following groups:—
 A *Signal & alarm* *53* lights each of *16* candle power requiring a total current of *53* Amperes
 B *Machinery spaces* *61* lights each of *16* candle power requiring a total current of *61* Amperes
 C *anc. cargo* *48* lights each of *16* candle power requiring a total current of *48* Amperes
 D *Projector* — 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 *1* lamps each of *32* candle power requiring a total current of *2* Amperes
 2 Side light with *1* lamps each of *32* candle power requiring a total current of *4* Amperes
 8 Cargo lights of *6 x 16 = 96* candle power, whether incandescent or arc lights *incandescent*
 If arc lights, what protection is provided against fire, sparks, &c. *also 3 25 ampere arc lamps with heavy brass framed lanterns, plate glass panes & wire netting frame*
 Where are the switches controlling the masthead and side lights placed *in wheelhouse in bridge.*

DESCRIPTION OF CABLES.

Main cable carrying *150* Amperes, comprised of *37* wires, each *14* L.S.G. diameter, *.190* square inches total sectional area
 Branch cables carrying *35* Amperes, comprised of *19* wires, each *18* L.S.G. diameter, *.035* square inches total sectional area
 Branch cables carrying *50* Amperes, comprised of *19* wires, each *17* L.S.G. diameter, *.048* square inches total sectional area
 Leads to lamps carrying *3* Amperes, comprised of *1* wires, each *16* L.S.G. diameter, *.032* square inches total sectional area
 Cargo light cables carrying *6* Amperes, comprised of *145* wires, each *38* L.S.G. diameter, *.004* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

wires insulated with layers of paper & vulcanized rubber protected with strong riding of hemp then lead sheathed, sewed with putty & finally covered with galvanizer flat iron wiring.
 Joints in cables, how made, insulated, and protected *none except in rooms. These soldered insulated with putty & 30 cent tape, furnished*
 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 galvanized iron pipe laid on the deck, per raft.*



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Foundation

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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

sealed and armoured wire employed.

lead sheathed

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

shiny wood casing

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

lead sheathed sealed & armoured

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

" " " "

How are cables carried through beams

none through beams

through bulkheads, &c. transverse

How are cables carried through decks

all in pipe on deck

Are any cables run through coal bunkers

no

or cargo spaces

no

or spaces which may be used for carrying cargo, stores, or baggage

no

If so, how are they protected

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

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

run socket in dynamo pole piece

How are the returns from the lamps connected to the hull

5/16" cable (8/16" wire)

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

(1)

supplied with a voltmeter and

(1)

an amperemeter, fixed

as 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 2500 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.

M. W. Haffner & Co. Ltd.
Electrical Engineers

Electrical Engineers

Date 23/2/13

COMPASSES.

Distance between dynamo or electric motors and standard compass

about 160 feet

Distance between dynamo or electric motors and steering compass

" "

The nearest cables to the compasses are as follows:—

A cable carrying 0 Amperes

20 25

feet from standard compass

20

feet from steering compass

A cable carrying (all wiring in vicinity of compasses in)

20 25

feet from standard compass

20

feet from steering compass

A cable carrying (all wiring in vicinity of compasses in)

20 25

feet from standard compass

20

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 PRO WORKMAN, CLARK & CO., LIMITED

degrees on

every

course in the case of the steering compass.

M. W. Haffner & Co. Ltd.

Builder's Signature.

Date 27th Feb 1903.

GENERAL REMARKS.

This installation appears to be of the best description as regards material and workmanship and has been fitted in accordance with the Rules of the Register.

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.

2.3.03

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.