

REPORT ON ELECTRIC LIGHTING INSTALLATION. No.

Name *Bristol* Date of First Survey *June 9* Date of Last Survey *June 25* No. of Visits *4*
 Material *Iron or Steel* Port belonging to *s/s Arlette*
 Built at *Bristol* By whom *C. Hill & Son* When built *1920*
 Address *Quai. Ave. de Navigation* Owners Address
 138 Electric Light Installation fitted by *C. Hill & Son* When fitted *1920*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Single crank, direct coupled multipolar compound wound Dynamo

Dynamo 75 Amperes at 100 Volts, whether continuous or alternating current *Continuous*

Dynamo fixed *Top of E. R (Stearing Engine room)*

Main Switch Board *do* having switches to groups *Four circuits* of lights, &c., as below

Auxiliary switch boards and numbers of switches on each *E. Room + accommodation*

Wires fitted on main switch board to the cables of main circuit *Yes* and on each auxiliary switch boards to the cables of auxiliary

Rods *Yes* and at each position where a cable is branched or reduced in size *Yes* and to each lamp circuit *Yes*

Wires 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*

Cut outs of non-oxidizable metal *Yes* and constructed to fuse at an excess of *50* per cent over the normal current

Cut outs fitted in easily accessible positions *Yes* Are the fuses of standard dimensions *Yes* If wire fuses are used

Permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit *Yes*

Switches and cut-outs constructed of incombustible materials and fitted on incombustible bases

Number of lights provided for *110/100* arranged in the following groups:—

Navigation lights each of	32	candle power requiring a total current of	5.6	Amperes
Cargo lights each of	16	candle power requiring a total current of	13.4	Amperes
Accommodation lights each of	16	candle power requiring a total current of	17.4	Amperes
Engine Room lights each of	16	candle power requiring a total current of	12.8	Amperes
lights each of		candle power requiring a total current of		Amperes

Mast head light with 2 lamps each of 32 candle power requiring a total current of 1.1 Amperes

Side light with 2 lamps each of 32 candle power requiring a total current of 1.1 Amperes

4 Cargo lights of each .96 candle power, whether incandescent or arc lights *Incandescent*

Means, what protection is provided against fire, sparks, &c. *—*

Location of the switches controlling the masthead and side lights placed *Bridge*

SECTION OF CABLES.

Cables carrying	112 ³ Amperes, comprised of	19 wires, each	14 L.S.G. diameter, .094 square inches total sectional area
Cables carrying	34 Amperes, comprised of	7 wires, each	18 L.S.G. diameter, .0125 square inches total sectional area
Cables carrying	24 Amperes, comprised of	7 wires, each	20 L.S.G. diameter, .0070 square inches total sectional area
Cables carrying	7.2 Amperes, comprised of	3 wires, each	22 L.S.G. diameter, .0018 square inches total sectional area
Cables carrying	24 Amperes, comprised of	7 wires, each	20 L.S.G. diameter, .0070 square inches total sectional area

SECTION OF INSULATION, PROTECTION, ETC.

Wires *Makers Association 600 Medium Grade Armoured S. I. wire & braided*

Cables, how made, insulated, and protected *Porcelain Junction Boxes with C. I. Covers*

The joints of cables thoroughly soldered, resin only having been used as a flux *Yes* Are all joints in accessible positions, none being

in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage *Yes*

any joints in or branches from the cable leading from dynamo to main switch board *No*

How the cables led through the ship, and how protected *Through beams. Armoured cable*



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W152-0059

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 *Lead covered & armoured*

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

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

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

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

How are cables carried through decks *Galvanised 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 *Armoured & lead covered*

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 *C. I. plug boxes*

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 *Yes* supplied with a voltmeter and *Yes* an amperemeter, fixed *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.

p.p. CHARLES HILL & SONS LTD.,

James Peck

Electrical Engineers

Date *24/6/20*

COMPASSES.

Distance between dynamo or electric motors and standard compass

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying	<i>.5</i>	Amperes	<i>Lighting</i>	feet from standard compass	<i>0</i>	feet from steering compass
A cable carrying	<i>.5</i>	Amperes	"	feet from standard compass	<i>0</i>	feet from steering compass
A cable carrying	<i>.5</i>	Amperes	"	feet from standard compass	<i>0</i>	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power

The maximum deviation due to electric currents, etc., was found to be _____ degrees on _____ course in the case of the standard compass and _____ degrees on _____ course in the case of the steering compass.

p.p. CHARLES HILL & SONS Ltd.,

James Peck

Builder's Signature

Date *24/6/20*

GENERAL REMARKS.

This Electric Light Installation has been fitted in accordance with the Rules of this Society. The Workmanship & material are good. The Installation has been examined under working conditions & found satisfactory.

G. A. Dryden Toynes

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

Committee's Minute *FRI. JUL. 2 1920*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

WEST HARTLEPOOL

REPORT FORM No. 13.

