

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 27209

Lesto
 SUNDERLAND. Date of First Survey *28 Mar* Date of Last Survey *4 Apr 18* No. of Visits *2*
 the Iron or Steel *Lests* Port belonging to *Newcastle*
 built at *Barnes, SUNDERLAND.* By whom *J. Brown & Sons Ltd* When built *1918*
Pelton S.S. Co Ltd Owners' Address *Newcastle*
 Electric Light Installation fitted by *Campbell & Islerwood Ltd.* When fitted *April 1918.*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Islerwood. 4 pole round Dynamo direct coupled to a
Engine
 Dynamo *91.* Amperes at *110.* Volts, whether continuous or alternating current *Continuous*
 Dynamo fixed *Starboard side Engine room* Whether single or double wire system is used *Double*
 Main Switch Board *Stores Bulk Head* having switches to groups *4* of lights, &c., as below
 auxiliary switch boards and numbers of switches on each *Engine room 6. Chart House 8 and a*
let in a convenient position for each light

are fitted on main switch board to the cables of main circuit *Yes* and on each auxiliary switch board to the cables of auxiliary
 " " *Yes* and at each position where a cable is branched or reduced in size *Yes* and to each lamp circuit *Yes*
 Rods *Yes* wired in the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits *Yes*
 Propeller fuses of non-oxidizable metal *Yes* and constructed to fuse at an excess of *75%* per cent over the normal current
 down bolts *Yes* 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 fuses constructed of incombustible materials and fitted on incombustible bases *Yes.*

Number of lights provided for *92 of 16, 4 of 32* arranged in the following groups :-

| Group | Number of lights | Candle power | Amperes |
|-------------------------|---|--|----------------|
| <i>Rigs</i> | <i>lights each of 32 of 16, 4 of 32</i> | <i>candle power requiring a total current of 22</i> | <i>Amperes</i> |
| <i>Engine room</i> | <i>lights each of 39 of 16</i> | <i>candle power requiring a total current of 21.45</i> | <i>Amperes</i> |
| <i>Chart House</i> | <i>lights each of 21 of 16</i> | <i>candle power requiring a total current of 11.55</i> | <i>Amperes</i> |
| <i>Stores Bulk Head</i> | <i>lights each of</i> | <i>candle power requiring a total current of 16.0</i> | <i>Amperes</i> |
| <i>Mast head light</i> | <i>1 lamps each of 32</i> | <i>candle power requiring a total current of included in P</i> | <i>Amperes</i> |
| <i>Side light</i> | <i>1 lamps each of 32</i> | <i>candle power requiring a total current of " "</i> | <i>Amperes</i> |
| <i>Cargo lights</i> | <i>6 of 16</i> | <i>candle power, whether incandescent or arc lights Incandescent</i> | |

Are the switches controlling the masthead and side lights placed *in Chart House*

DESCRIPTION OF CABLES.

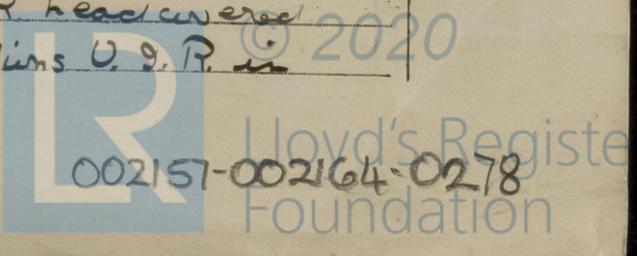
| | |
|--|---|
| <i>each cable carrying 40.3 Amperes, comprised of 37 wires, each 16 S.W.G. diameter,</i> | <i>.117 square inches total sectional area</i> |
| <i>each cables carrying 22 Amperes, comprised of 7 wires, each 18 S.W.G. diameter,</i> | <i>.012 square inches total sectional area</i> |
| <i>each cables carrying 15 Amperes, comprised of 7 wires, each 20 S.W.G. diameter,</i> | <i>.007 square inches total sectional area</i> |
| <i>lights to lamps carrying 1.65 Amperes, comprised of 1 wires, each 18 S.W.G. diameter,</i> | <i>.0018 square inches total sectional area</i> |
| <i>go light cables carrying 3.3 Amperes, comprised of 70 wires, each 36 S.W.G. diameter,</i> | <i>.0031 square inches total sectional area</i> |

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Accommodation U.D.R. lead covered, Engine room Armoured, Braided
holds and exposed positions U.D.R. in Screwed Steel Tubing
 Joints in cables, how made, insulated, and protected *Iron made*

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances *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 *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*

How are the cables led through the ship, and how protected *Accommodation U.D.R. Lead covered, Engine room Armoured, Braided holds, exposed positions U.D.R. in Screwed Steel Tubing*



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 Screwed Steel Tubing

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covered, Armoured & Braided

What special protection has been provided for the cables near boiler casings Lead covered, Armoured & Braided

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

How are cables carried through beams Fibre & scrolls except when armoured through bulkheads, & W.P. lands

How are cables carried through decks Deck Pipes & Langed to Deck

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

If so, how are they protected Screwed Steel Tubing

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 fuses for these lights fitted —

If in the spaces, how are they specially protected —

Are any switches or fuses fitted in bunkers No.

Cargo light cables, whether portable or permanently fixed Portable How fixed Special W. T. Bat.

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 —

Is the installation supplied with a voltmeter Yes. and with an amperemeter Yes. fixed Main Board.

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas

Are any switches, fuses, 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 copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 1000 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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.

CAMPBELL & ISHERWOOD Ltd.
Per Thos. Meads

Electrical Engineers

Date 14th June 1918

COMPASSES.

Distance between dynamo or electric motors and standard compass about 100 ft.

Distance between dynamo or electric motors and steering compass " 100 ft.

The nearest cables to the compasses are as follows:—

| Cable carrying | Amperes | feet from standard compass | feet from steering compass |
|----------------|----------|----------------------------|----------------------------|
| <u>.55</u> | <u>1</u> | <u>1</u> | <u>1</u> |
| <u>1.65</u> | <u>3</u> | <u>3</u> | <u>3</u> |
| <u>10</u> | <u>9</u> | <u>9</u> | <u>9</u> |

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 any course in the case of the standard compass and nil degrees on any course in the case of the steering compass.

At Crown

Builder's Signature.

Date July 5th 1918

GENERAL REMARKS.

The installation has been satisfactorily fitted in the vessel, tested at full load and found good

It is submitted that this vessel is eligible for THE RECORD. Elec. light.

AWD
9/7/18

Sh. Davis

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

16-116—Transfer.