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18

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 18201

Port of *Sunderland* Date of First Survey *23 March 96* No. of Visits *1*
 No. in Reg. Book *as the form on Steel* *S/S "Umtati"* Port belonging to *London*
 Built at *Sunderland* By whom *J. Laing* When built *1896*
 Owners *Bullard King & Co* Owners Address *Clarke Chapman & Co* When fitted *1896*
 Yard No. *546* Electric Light Installation fitted by *Clarke Chapman & Co*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine is of the double acting single cylinder type Coupled direct to a two pole compound wound dynamo

Capacity of Dynamo *8000 watts 80 Amperes at 100* Volts, whether continuous or alternating current *Direct*

Where is Dynamo fixed *on steel platform in engine room*

Position of Main Switch Board *bulkhead near dynamo* having switches to groups *A. B. C. D.* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *entrance to saloon containing 3 switches*
13 cut outs spanning midships containing 2 switches + 2 cut outs

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

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases *Yes*

Total number of lights provided for *123* arranged in the following groups:—

Total number of lights provided							
A	15	lights each of	16	candle power requiring a total current of	9	Amperes	
B	20	lights each of	16	candle power requiring a total current of	12	Amperes	
C	50	lights each of	16	candle power requiring a total current of	30	Amperes	
D	20	lights each of	16	candle power requiring a total current of	12	Amperes	
E		lights each of		candle power requiring a total current of		Amperes	
1	Must head light with	2	lamps each of	16	candle power requiring a total current of	6	Amperes
2	Side light with	2	lamps each of	16	candle power requiring a total current of	12	Amperes
10	Cargo lights of		16	candle power, whether incandescent or arc lights	6 ^{amps}	incandescent	

If arc lights, what protection is provided against fire, sparks, &c.

Where are the switches controlling the masthead and side lights placed *in wheel house*

DESCRIPTION OF CABLES.

Main cable carrying *80* Amperes, comprised of *19* wires, each *15* L.S.G. diameter, *0.029* square inches total sectional area
 Branch cables carrying *50* Amperes, comprised of *19* wires, each *16* L.S.G. diameter, *0.062* square inches total sectional area
 Branch cables carrying *20* Amperes, comprised of *7* wires, each *16* L.S.G. diameter, *0.022* square inches total sectional area
 Leads to lamps carrying *1* Amperes, comprised of *1* wires, each *18* L.S.G. diameter, *0.0018* square inches total sectional area
 Cargo light cables carrying *5* Amperes, comprised of *357+41* wires, each *0.06+0.08* L.S.G. diameter, *0.0106* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables R. & K. of Silverstone manufacture

Joints in cables, how made, insulated, and protected

Solvent taped pure rubber strip, vulcanized pure rubber, repaired tape reinforced with I.R. solution

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

in cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage *No*

or branches from the cable leading from dynamo to main switch board

through the ship, and how protected *in iron pipes*



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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 *Lead covered*

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

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

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

How are cables carried through beams *in lead insulation* through bulkheads, &c.

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

Are any cables run through coal bunkers *no* or cargo spaces *yes* or spaces which may be used for carrying cargo, stores, or baggage *yes*

If so, how are they protected *in iron pipes clipped to beams*

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 *—*

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 on main switch

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 *Six hundred* 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 *Mar 23/96*

COMPASSES.

Distance between dynamo or electric motors and standard compass *MANAGING DIRECTOR.*

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	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

At the electric installation at work at full power
 tc., 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.

Builder's Signature Date

GENERAL REMARKS.

The fitting of this installation as far as can be seen is carried out in accordance with the Rules.

J. J. Hindley
 for to Lloyd's Register of British and Foreign

Committee's Minute

This installation in accordance with

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