

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 31969

Port of Newcastle Date of First Survey 14 Nov 94 Date of Last Survey 20 Jun 95 No. of Visits 28
 No. in Reg. Book on the Iron or Steel S.S. "Rakia" Port belonging to Blymouth
 Built at Newcastle By whom Hawthorn Leslie & Co When built 1895
 Owners New Zealand Shipping Co Owners Address London
 Yard No. Electric Light Installation fitted by Bruce Scott & Mountford When fitted June 1895

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Type Vertical high speed engine & War office
Large dynamo - (Compound wound)
 Capacity of Dynamo 120 Amperes at 105 Volts, whether continuous or alternating current (continuous)
 Where is Dynamo fixed in main engine room
 Position of Main Switch Board in 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 switches to each lamp

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 45% 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 Special sized wires
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 171 arranged in the following groups :-

Group	Description	Number of Lights	Current (Amperes)
A	lights each of 16 candle power requiring a total current of	35	21
B	lights each of 16 candle power requiring a total current of	17	10.2
C	lights each of 16 candle power requiring a total current of	27	16.2
D	lights each of 16 candle power requiring a total current of	57	34.2
E	lights each of 32 candle power requiring a total current of	35 (Cargo)	40
1	Mast head light with 1 lamp each of Double filament 16 candle power requiring a total current of	1	1.2
2	Side lights with 1 lamp each of do do candle power requiring a total current of	2	2.4
3	Cargo lights of 7 = 32 candle power, whether incandescent or arc lights	7	Incandescent

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

Where are the switches controlling the masthead and side lights placed In special boxes

DESCRIPTION OF CABLES.

Description	Amperes	Wires	L.S.G. diameter	Total sectional area
Main cable carrying	120	37	.167"	square inches total sectional area
Branch cables carrying	40	7	.038"	square inches total sectional area
Branch cables carrying	34	7	.038"	square inches total sectional area
Leads to lamps carrying	1	3	.0027	square inches total sectional area
Cargo light cables carrying	9	19	.011	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure India Rubber - Vulcanised Rubber Tarsed Tape - Compound Tape & Braided

Joints in cables, how made, insulated, and protected Pure Solder & resin only
J.R. IR Tape - Chalerton - Tarsed Tape Compound

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 All can be got at

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 Special wood casing lead wire & iron piping where necessary

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 Cable
run in Iron pipe.

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

What special protection has been provided for the cables near boiler casings not near

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

How are cables carried through beams wood. Insulation pieces through bulkheads, &c. special screw glass

How are cables carried through decks Deck pipes - Admiralty pattern

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

If so, how are they protected specialy protected by wood grounding or pipe

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

If so, how are the lamp fittings and cable terminals specially protected special "Bunker" guarded fitting

Where are the main switches and cut outs for these lights fitted on switches special protection

If in the spaces, how are they specially protected Cast-Iron Switch covers. (screwed)

Are any switches or cut outs fitted in bunkers yes

Cargo light cables, whether portable or permanently fixed removable 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 Board

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.

Scott's Mountain

Electrical Engineers

Date 19 July 1895

COMPASSES.

Distance between dynamo or electric motors and standard compass approt. 95 feet.

Distance between dynamo or electric motors and steering compass " 45 "

The nearest cables to the compasses are as follows:—

A cable carrying <u>.672</u> Amperes	<u>14</u> feet from standard compass	<u>4</u> feet from steering compass
A cable carrying <u>40</u> Amperes	<u>100</u> feet from standard compass	<u>80</u> feet from steering compass
A cable carrying <u>—</u> Amperes	<u>—</u> feet from standard compass	<u>—</u> 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.

Arthur Foot

Builder's Signature

Date 24th July 1895

GENERAL REMARKS.

The electric light installation has been fitted by Messrs Scott's Mountain. As far as can be seen is found and efficient

G. Asher

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

Committee's Minute.



© 2021

Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.