

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 15913.

Port of Starlespod. Date of First Survey 30th July 20 Date of Last Survey 22nd July 21 No. of Visits 79.
 No. in Reg. Book 27108 on the Iron or Steel 35 "PENCARROW" Port belonging to Falmouth.
 Built at Starlespod By whom Best. Divind. Shipbuilding Co. When built 1921
 Owners C. B. Shellen Ho. Owners' Address Cardiff.
 Yard No. 608 Electric Light Installation fitted by Campbell & Isherwood Ltd. When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Campbell & Isherwood 4 Pole Compound Wound Dynamo driven by Roby Open Vertical Type Steam Engine 8" Cylinders, 6" Stroke, 350 H.P.M.
 Capacity of Dynamo 75 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine Room Bottom Whether single or double wire system is used Double
 Position of Main Switch Board Alongside 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 A. In Seaman's Mess Room, 4; B. In Saloon, 4; C. In Saloon, 4; D. In Saloon, 4.

If fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes
 Are the fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 100 per cent over the normal current

Are all fuses 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 fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 102 arranged in the following groups:—

Group	Description	Number of Lights	Candle Power	Total Current (Amperes)
A	Accommodation etc.	16	21	21
B	Navigation	8	32	9
C	Engine Room	18	10.5	10.5
D	Wireless	-	15	15
E	Mast head light with 1 lamp each of	32	2	2
	Side light with 1 lamp each of	32	2	2
	5-5 light Cargo lights of	80	Incandescent	

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

Where are the switches controlling the masthead and side lights placed In Chart Room on Bridge.

DESCRIPTION OF CABLES.

Number of Cables	Amperes	Wires	S.W.G. Diameter	Total Sectional Area (square inches)
Main cable carrying	75	19	18	0.75
Branch cables carrying	21	7	18	0.125
Branch cables carrying	9+15	7	20	0.07
Leads to lamps carrying	3	1	18	0.018
Cargo light cables carrying	3	12	30	0.015

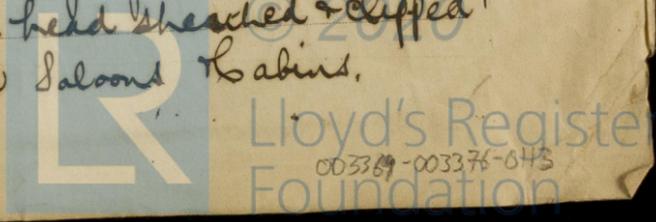
DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure and vulcanised rubber and rubber tape, the whole vulcanised together and lead sheathed or vulcanised rubber, and rubber tape, the whole vulcanised together and taped and braided, and run through galvanised iron pipe.

Joints in cables, how made, insulated, and protected Some kept mechanical, when at end in porcelain covers.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 V.I.C. Cable, led through galvanised iron pipes securely clipped to under side of deck, or bulkheads, lead sheathed & clipped in Saloon & cabins.



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 head sheathed cables and galvanised iron pipes.

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

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 Cables are led through galvanised iron pipes.

How are cables carried through beams In galvanised iron pipes through bulkheads, &c. Pipes & bands.

How are cables carried through decks Through Deck 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 led through galvanised iron pipes

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 _____

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 In main switch 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 600 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 & BEEHERWOOD LTD.

S. D. Priscoll

Electrical Engineers

Date 31st Aug. 1921

COMPASSES.

Distance between dynamo or electric motors and standard compass About 150 ft.

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

The nearest cables to the compasses are as follows:—

A cable carrying	<u>9</u>	Amperes	<u>10</u>	feet from standard compass	<u>10</u>	feet from steering compass
A cable carrying	<u>15</u>	Amperes	<u>40</u>	feet from standard compass	<u>40</u>	feet from steering compass
A cable carrying		Amperes		feet from standard compass		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 all courses in the case of the standard compass and nil degrees on all courses in the case of the steering compass.

PER PRO IRVINE'S SHIP BUILDING & DRY DOCKS CO., LIMITED.

Builder's Signature

Date

GENERAL REMARKS.

This installation has been fitted under special survey, the materials and workmanship are good and when completed was tried under working conditions and found satisfactory.

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

See 4.10. 11th Aug. - 21 96 rendered

Thomas Miller
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



Im. 11.11.11. Transfer.