

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 15913.

Port of Harlepod. Date of First Survey 30th July 20 Date of Last Survey 22nd July 21 No. of Visits 79
 No. in Reg. Book 29108 on the Iron or Steel SS "PENCARROW" Port belonging to Falmouth
 Built at Harlepod By whom Best. Divins. Shipbuilding Co. When built 1921
 Owners C. B. Shellen Res. Owners' Address Cardiff
 Yard No. 603 Electric Light Installation fitted by Campbell & Isenwood Ltd. When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Campbell & Isenwood 4 Pole Compound Wound Dynamo driven by Roby
Open Vertical Type Steam Engine 8" Cylinder, 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 Seamen's Mess Room, 4 (4) Engines Port (4)
Saloon Port (4) B. In Chart House (16) C. Engine Room (3)

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

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:—

A Accommodation lights each of	16	candle power requiring a total current of	21	Amperes
B Navigation lights each of	8, 16, 32	candle power requiring a total current of	9	Amperes
C Engine Room lights each of	16	candle power requiring a total current of	10.5	Amperes
D Wireless lights each of	—	candle power requiring a total current of	15	Amperes
E lights each of	—	candle power requiring a total current of	—	Amperes
2 Mast head light with 1 lamps each of	32	candle power requiring a total current of	2	Amperes
2 Side light with 1 lamps each of	32	candle power requiring a total current of	2	Amperes
5-5 light Cargo lights of	80	candle power, whether incandescent or arc lights	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.

Main cable carrying	75 Amperes, comprised of	19 wires, each	18 S.W.G. diameter,	.075 square inches total sectional area
Branch cables carrying	21 Amperes, comprised of	7 wires, each	18 S.W.G. diameter,	.0125 square inches total sectional area
Branch cables carrying	9.15 Amperes, comprised of	7 wires, each	20 S.W.G. diameter,	.007 square inches total sectional area
Leads to lamps carrying	3 Amperes, comprised of	1 wires, each	18 S.W.G. diameter,	.0018 square inches total sectional area
Cargo light cables carrying	3 Amperes, comprised of	12 wires, each	30 S.W.G. diameter,	.0015 square inches total sectional area

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 except mechanical, when all enclosed 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.

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 & JEHERWOOD LTD.

P. J. Priscoll

Electrical Engineers

Date 3rd 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	Amperes	feet from standard compass	feet from steering compass
9	10	10	10
15	40	40	40

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.



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