

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17635.

Port of Bournemouth Date of First Survey 20th Feby, 1920 Date of Last Survey 27th Apr, 1920 No. of Visits 25
 No. in Reg. Book on the Iron or Steel Steamer 'Moto' Port belonging to Newcastle-on-Tyne
 Built at Iron Works By whom Brundish Murray When built 1920
 Owners Pelton Steamship Coy. Owners' Address _____
 Yard No. 291 Electric Light Installation fitted by Campbell & Isherwood When fitted 1920

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Campbell & Isherwood, 10 K.W. Compound wound Dynamos coupled to Robey's Engine.
 Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Engine Room. Whether single or double wire system is used Double
 Position of Main Switch Board Engine Room. having switches to groups 4 of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each Engine 4 Switches Chart Room 6 Switches

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 80% 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 12 1/2 - 16-C.P. arranged in the following groups:—

A	<u>43.</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>22</u>	Amperes
B	<u>40 1/2.</u>	lights each of	<u>16.</u>	candle power requiring a total current of	<u>11.25</u>	Amperes
C	<u>38.</u>	lights each of	<u>16.</u>	candle power requiring a total current of	<u>19.</u>	Amperes
D	<u>Wires</u>	lights each of	<u>—</u>	candle power requiring a total current of	<u>15.</u>	Amperes
E	<u>—</u>	lights each of	<u>—</u>	candle power requiring a total current of	<u>—</u>	Amperes
	<u>2</u>	Mast head light with <u>2</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.5</u>	Amperes
	<u>2.</u>	Side light with <u>2</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>2.5.</u>	Amperes
	<u>4.</u>	Cargo lights of	<u>4 - 32 C.P.</u>	candle power, whether incandescent or arc lights	<u>Incandescent</u>	

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

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

DESCRIPTION OF CABLES.

Main cable carrying 100 Amperes, comprised of 37 wires, each 16 S.W.G. diameter, .117 square inches total sectional area
 Branch cables carrying 22 Amperes, comprised of 7 wires, each 14 S.W.G. diameter, .035 square inches total sectional area
 Branch cables carrying 15 Amperes, comprised of 7 wires, each 17 S.W.G. diameter, .017 square inches total sectional area
 Leads to lamps carrying 11.25 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area
 Cargo light cables carrying 16 Amperes, comprised of 7 wires, each 17 S.W.G. diameter, .017 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Engine Room + Stowhold L. & B. cable.
Mains fore + aft. V.I.R. in Galv. Iron Tubes.
Cables. Lead covered cables.

Joints in cables, how made, insulated, and protected no joints

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 _____

How are the cables led through the ship, and how protected Through Holds V.I.R. in galv. Tubes.



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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 L. C. A. + B. Cable

What special protection has been provided for the cables near boiler casings L. C. A. + B. Cable

What special protection has been provided for the cables in engine room L. C. A. + B. Cable

How are cables carried through beams Fibre Ferrules through bulkheads, &c. Brass Glands

How are cables carried through decks Deck Tubes 18" long

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 Gab. Iron Tubes

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 Both How fixed Portable Connection on Deck

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 Switchboard

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 500 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 & ISBERWOOD, LTD.

T R Peake

Electrical Engineers

Date 5th May 1920

COMPASSES.

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

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

The nearest cables to the compasses are as follows:—

A cable carrying	<u>11</u>	Amperes	<u>6</u>	feet from standard compass	<u>10</u>	feet from steering compass
A cable carrying	<u>15</u>	Amperes	<u>20</u>	feet from standard compass	<u>25</u>	feet from steering compass
A cable carrying	<u>.5</u>	Amperes	<u>inside</u>	feet from standard compass	<u>inside</u>	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 — course in the case of the standard compass and Nil degrees on — course in the case of the steering compass.

MURDOCH & MURRAY, LIMITED.

M. McPeggar

Builder's Signature.

Date 7th May 1920

GENERAL REMARKS.

The fitting of the wires for this vessel are as stated in this report and appear to be in accordance with the Committee's requirements. The installation has been tested under full load and worked well.

It is submitted that this vessel is eligible for

ELECT LIGHT. 13/5/20

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Elec Light



Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.