

WED MAY 12 1920

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17635.

Port of *Bremer* Date of First Survey *20<sup>th</sup> Feb. 1920* Date of Last Survey *27<sup>th</sup> 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 *San Hargan* By whom *Harrold 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 N.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	<i>43.</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>22</i>	Amperes
B	<i>40 1/2.</i>	lights each of	<i>16.</i>	candle power requiring a total current of	<i>11.25</i>	Amperes
C	<i>38.</i>	lights each of	<i>16.</i>	candle power requiring a total current of	<i>19.</i>	Amperes
D	<i>Wireless</i>	lights each of	<i>32</i>	candle power requiring a total current of	<i>15.</i>	Amperes
E	<i>—</i>	lights each of	<i>—</i>	candle power requiring a total current of	<i>—</i>	Amperes
<i>2</i>	Mast head light with	<i>2</i> lamps each of	<i>32</i>	candle power requiring a total current of	<i>2.5</i>	Amperes
<i>2.</i>	Side light with	<i>2</i> lamps each of	<i>32</i>	candle power requiring a total current of	<i>2.5.</i>	Amperes
<i>4.</i>	Cargo lights of	<i>4 - 32 C.P.</i>		candle power, whether incandescent or arc lights	<i>Incandescent</i>	

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

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

*Engine Room + Stokhold L. b. et. + B. batt.*  
*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.*

006601-006613-0247

© 2021 Lloyd's Register Foundation



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 *Galv. 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 *1000* 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.

*T R Peake*

Electrical Engineers

Date *5<sup>th</sup> 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:—

Cable carrying	Amperes	Distance from standard compass	Distance from steering compass
A cable carrying <i>11</i>	<i>6</i> Amperes	<i>10</i> feet from standard compass	<i>10</i> feet from steering compass
A cable carrying <i>15</i>	<i>20</i> Amperes	<i>25</i> feet from standard compass	<i>25</i> feet from steering compass
A cable carrying <i>.5</i>	<i>inside</i> Amperes	<i>inside</i> feet from standard compass	<i>inside</i> 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.

*M. M. Pregar*

Builder's Signature

Date *7 May 1920*

GENERAL REMARKS.

*The following 7 The times 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*

*ELECTRIC LIGHT 13/5/20*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

*Elect Light*



Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.