

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 28010

Port of Sunderland Date of First Survey Dec 7th 1920 Date of Last Survey Jan 10th 1921 No. of Visits 3
 No. in on the Iron or Steel "VANELUS" Port belonging to London
 Reg. Book Built at Sunderland By whom Swan Hunter & Co. Ltd. When built 1921
 Owners Cork Steamship Co. Ltd. Owners' Address 4 South Mall, Cork
 Yard No. 1155 Electric Light Installation fitted by J. Holmes & Co. When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 8"x6" Robey engine coupled direct to one "Holmes" dynamo, open type.

Capacity of Dynamo 63 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed in Engine Room Whether single or double wire system is used double

Position of Main Switch Board near dynamo having switches to groups A, B, C, D, E, F of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 3 way fusebox in Porty, 8 way fusebox in Chart Rm, 6 way 10 amp & 4 way 10 amp box in Engine Rm, 5 way box in 2nd Eng's Rm, 2 way box in Steering Gear, 6 way 5 amp box in Engine Rm.

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 120-16 CP, 15-32 CP arranged in the following groups:—

A	<u>15</u> lights each of <u>16</u>	candle power requiring a total current of	<u>approx. 14.0</u> Amperes
B	<u>4</u> " " " <u>32</u>	" " " " " "	" <u>26.8</u> Amperes
C	<u>36</u> lights each of <u>16</u>	" " " " " "	" <u>17.9</u> Amperes
D	<u>6</u> " " " <u>32</u>	" " " " " "	" <u>15.6</u> Amperes
E	<u>24</u> lights each of <u>16</u>	" " " " " "	" <u>9.5</u> Amperes
F	<u>4</u> " " " <u>32</u>	" " " " " "	" <u>2.24</u> Amperes
	<u>14</u> lights each of <u>16</u>	" " " " " "	" <u>2.24</u> Amperes
	<u>2</u> Mast head light with <u>1</u> lamp each of <u>32</u>	" " " " " "	" <u>2.24</u> Amperes
	<u>2</u> Side light with <u>1</u> lamp each of <u>32</u>	" " " " " "	" <u>2.24</u> Amperes
	<u>10</u> Cargo lights of <u>6 x 16</u>	" " " " " "	" <u>incandescent</u>
	<u>5</u> " " " <u>2 x 32</u>	" " " " " "	" " " "

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

DESCRIPTION OF CABLES.

Main cable carrying	<u>63</u> Amperes, comprised of	<u>19</u> wires, each	<u>14</u> S.W.G. diameter, <u>.046</u> square inches total sectional area
Branch cables carrying	<u>14.0</u> Amperes, comprised of	<u>4</u> wires, each	<u>18</u> S.W.G. diameter, <u>.012</u> square inches total sectional area
Branch cables carrying	<u>26.8</u> Amperes, comprised of	<u>7</u> wires, each	<u>16</u> S.W.G. diameter, <u>.022</u> square inches total sectional area
Leads to lamps carrying	<u>.56</u> Amperes, comprised of	<u>1</u> wires, each	<u>18</u> S.W.G. diameter, <u>.0018</u> square inches total sectional area
Cargo light cables carrying	<u>3.36</u> Amperes, comprised of	<u>3</u> wires, each	<u>20</u> S.W.G. diameter, <u>.003</u> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors composed of #6 Copper wires, insulated with pure & vulcanised India Rubber, taped, braided & compounded or V.I.R. taped, armoured, taped & braided overall.

Joints in cables, how made, insulated, and protected None, looping in system carried out.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances none 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 no

How are the cables led through the ship, and how protected In Accommodation lead covered, In Cargo Spaces V.I.R. in iron pipes, In Engine & Boiler Rms, Armoured & braided.

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 *Armoured & braided*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Armoured & braided*

What special protection has been provided for the cables near boiler casings *" " "*

What special protection has been provided for the cables in engine room *" " "*

How are cables carried through beams *Bushed with fibre.* through bulkheads, &c. *stuffing glands*

How are cables carried through decks *in lead or iron deck tubes, flanged & made watertight.*

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 *In 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 *Socket connection.*

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 *on main 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.

COMPASSES.

Distance between dynamo or electric motors and standard compass *approx 86 ft.*

Distance between dynamo or electric motors and steering compass *" 82 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	inside	feet from standard compass	inside	feet from steering compass
<i>.56</i>					
<i>approx 9.5</i>		<i>approx 10</i>		<i>approx 10</i>	
<i>" 14.0</i>		<i>" 16.</i>		<i>" 12.</i>	

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 *each* course in the case of the standard compass and *nil* degrees on *each* course in the case of the steering compass.

GENERAL REMARKS.

This installation appears to have been fitted in a satisfactory manner and in accordance with the rules and on examination was found under working conditions to be satisfactory.

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

Elec Light Bell 27/1/21

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.