

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 27823.

Port of Hull Date of First Survey 22-6-14 Date of Last Survey 16-7-14 No. of Visits 11
 No. in Reg. Book 308 on the Iron or Steel S.S. Flaminian Port belonging to Carlisle & Co. Ltd
 Built at Hull By whom Carlisle & Co. Ltd When built 1914-7
 Owners Ellerman Lines Ltd Owners' Address Clarke Chapman & Co. Ltd
 Yard No. 605 Electric Light Installation fitted by Clarke Chapman & Co. Ltd When fitted 1914-7

DESCRIPTION OF DYNAMO, ENGINE, ETC.

High Pressure inverted engine open type, coupled direct to compound wound multipole dynamo.

Capacity of Dynamo 80 Amperes at 100 Volts, whether continuous or alternating current Continuous

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

Position of Main Switch Board near dynamo having switches to groups ten of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Chart room (2) Two in Engine room (one 5 & one 6)

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 50% 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 149 arranged in the following groups:-

A	<u>Saloon 61</u>	lights each of <u>16</u>	candle power requiring a total current of <u>15.68</u>	Amperes
B	<u>Engineers 19</u>	lights each of <u>16</u>	candle power requiring a total current of <u>10.64</u>	Amperes
C	<u>Engine room 19</u>	lights each of <u>16</u>	candle power requiring a total current of <u>10.64</u>	Amperes
D	<u>Forward 12</u>	lights each of <u>16</u>	candle power requiring a total current of <u>7.84</u>	Amperes
E	<u>Aft 6</u>	lights each of <u>16</u>	candle power requiring a total current of <u>7.84</u>	Amperes
2	<u>Mast head light with one</u>	lamps each of <u>32</u>	candle power requiring a total current of <u>included in navigation</u>	Amperes
2	<u>Side light with one</u>	lamps each of <u>32</u>	candle power requiring a total current of <u>included in navigation</u>	Amperes
28	<u>Cargo lights of 16</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 in Chart Room

DESCRIPTION OF CABLES.

Main cable carrying 86.8 Amperes, comprised of 19 wires, each 15 S.W.G. diameter, .075 square inches total sectional area
 Branch cables carrying 34.16 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .017 square inches total sectional area
 Branch cables carrying 10.64 Amperes, comprised of 7 wires, each 20 S.W.G. diameter, .007 square inches total sectional area
 Leads to lamps carrying 1.68 Amperes, comprised of 1 wires, each 18 S.W.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 15.68 Amperes, comprised of 7 wires, each 18 S.W.G. diameter, .0125 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Rubber covered, Lapped, lead covered, taped & armoured.

Joints in cables, how made, insulated, and protected none except in mechanical junction boxes

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 no

How are the cables led through the ship, and how protected Through beams clipped to underside of deck amidships from thence fore & aft in H.D. galvanizing pipes secured under fore & aft guides



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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *no*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covered & armoured*

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

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 *Lead bushes except where armoured through bulkheads, &c. W. I. glands*

How are cables carried through decks *W. I. deck pipes, filled with double nuts & washers*

Are any cables run through coal bunkers *yes* or cargo spaces *no* or spaces which may be used for carrying cargo, stores, or baggage *yes*

If so, how are they protected *Lead covered & armoured & clipped to under side of deck*

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 *on 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.

For Clarke, Chapman & Co., Ltd.

Electrical Engineers

Date

July 16/1914

COMPASSES.

Distance between dynamo or electric motors and standard compass

about 100 ft-

Distance between dynamo or electric motors and steering compass

" 100 ft-

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
7.28	about 16	12	
-	-	-	-
-	-	-	-

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

Builder's Signature.

Date

GENERAL REMARKS.

This vessel has been fitted with an electric light installation as above & the workmanship is good. On completion it was tried under full working conditions & found satisfactory.

It is submitted that this vessel is eligible for

THE RECORD. Elec light

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

TUE. AUG. 18. 1914

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.