

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 79652

Port of Liverpool Date of First Survey Aug 70 Date of Last Survey September 20 1919 of Visits 6
 on the Iron on Steel s/s Colon Port belonging to London
 No. in 756 Book Built at Carston By whom H. C. Grayson & Co. When built 1919
 Owners MacAndrew & Co. Ltd. Owners' Address Campbell & Isherwood Ltd When fitted Sept/19
 Ord No. 108 Electric Light Installation fitted by

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Vertical, single cylinder type engine direct to compound wound multipolar type dynamo, both mounted on cast iron baseplate
 Capacity of Dynamo 50 Amperes at 100 Volts, whether continuous or alternating current continuous
 Where is Dynamo fixed Under floor in engine room Whether single or double wire system is used single
 Position of Main Switch Board near dynamo having switches to groups one of lights, f.c., as below
 Positions of auxiliary switch boards and numbers of switches on each 1. 7 way in Engine room 1. 10 way with switches in chart room remainder near respective groups of lights

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 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 150 1650 arranged in the following groups:

Group	Description	Number of Lights	Each of	Candle Power	Requiring a total current of	Amperes
A	Saloon	12	16	16	192	19
B	Bridge	19	16	16	304	9
C	Forecastle	25	16	16	400	10
D	Engine Room	22	16	16	352	8
E	Cargo	48	16	16	768	20
	2 300 watt & mast lantern	2	300	300	600	2
	2 Mast head light with 1 lamps each of	2	32	32	64	2
	2 Side light with 1 lamps each of	2	32	32	64	2
	8.6 lights blue in	8.6	96	96	828	0
	2 carbide lanterns	2	300	300	600	2

If arc lights, what protection is provided against fire, sparks, f.c. none

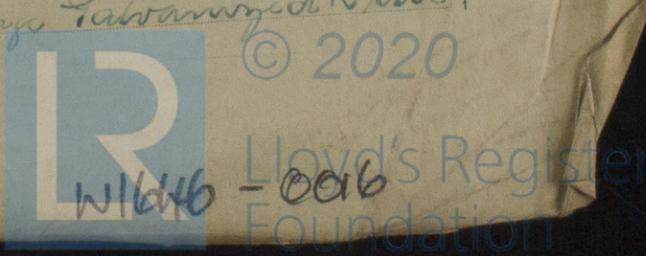
Where are the switches controlling the masthead and side lights placed in chart room.

DESCRIPTION OF CABLES.

Carrying	Amperes	Comprised of	Wires	Each	S.W.G. diameter	Square inches total sectional area
Main cable	50	19	wires	14	.098	1.098
Branch cables	10	7	wires	18	.0735	.0735
Branch cables	20	7	wires	18	.0735	.0735
Leads to lamps	1	3	wires	20	.0203	.0203
Cargo light cables	26	173	wires	38	.035	.035

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Armoured braided lead covered wires thro cargo & bunkers & Engine room & thro deck in heavy gauge galvanised pipe
 Joints in cables, how made, insulated, and protected none
 Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances no 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 thro beams on armoured lead covered braided wire engine lighting in heavy gauge galvanised pipe
 Forecable - into



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 *cables run in heavy gauge galvanized screwed iron*

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

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

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

How are cables carried through beams *in hard bushes* through bulkheads, &c. *in grommets*

How are cables carried through decks *in heavy gauge galvanized screwed iron*

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

If so, how are they protected *Armoured & under sea covered wire clipped to Deck Head*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage

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 *to connection boxes on bulkhead or brass tap screw in dynamo*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *to brass tap screw terminal*

How are the returns from the lamps connected to the hull *to brass tap screw terminal*

Are all the joints with the hull in accessible positions *yes*

Is the installation supplied with a voltmeter *yes* and with an amperemeter *yes* fixed on *Beam Smith 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 *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 & ISHERWOOD, LTD.

Electrical Engineers

Date *Sept 30/19*

COMPASSES.

Distance between dynamo or electric motors and standard compass

Distance between dynamo or electric motors and steering compass

The nearest cables to the compasses are as follows:—

A cable carrying	$\frac{1}{2}$ Amperes	$1\frac{1}{2}$ feet from standard compass	$6\frac{1}{2}$ feet from steering compass
A cable carrying	$\frac{1}{2}$ Amperes	5 feet from standard compass	5 feet from steering compass
A cable carrying	$\frac{1}{2}$ Amperes	$5\frac{1}{2}$ feet from standard compass	5 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 _____ degrees on _____ course in the case of the standard compass and _____ degrees on _____ course in the case of the steering compass.

H. & G. GRAYSON, LIMITED

Builder's Signature.

Date *2nd Oct 1919*

GENERAL REMARKS.

Aspheltic General Manager.

The Electric Lighting Installation has been fitted in accordance with the Rules and when tried under full working conditions was found satisfactory in every respect. In my opinion it is eligible to be recorded "Electric Light" in the Register Book

John Dykes Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL - 7 OCT 1919

Electric Light



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.